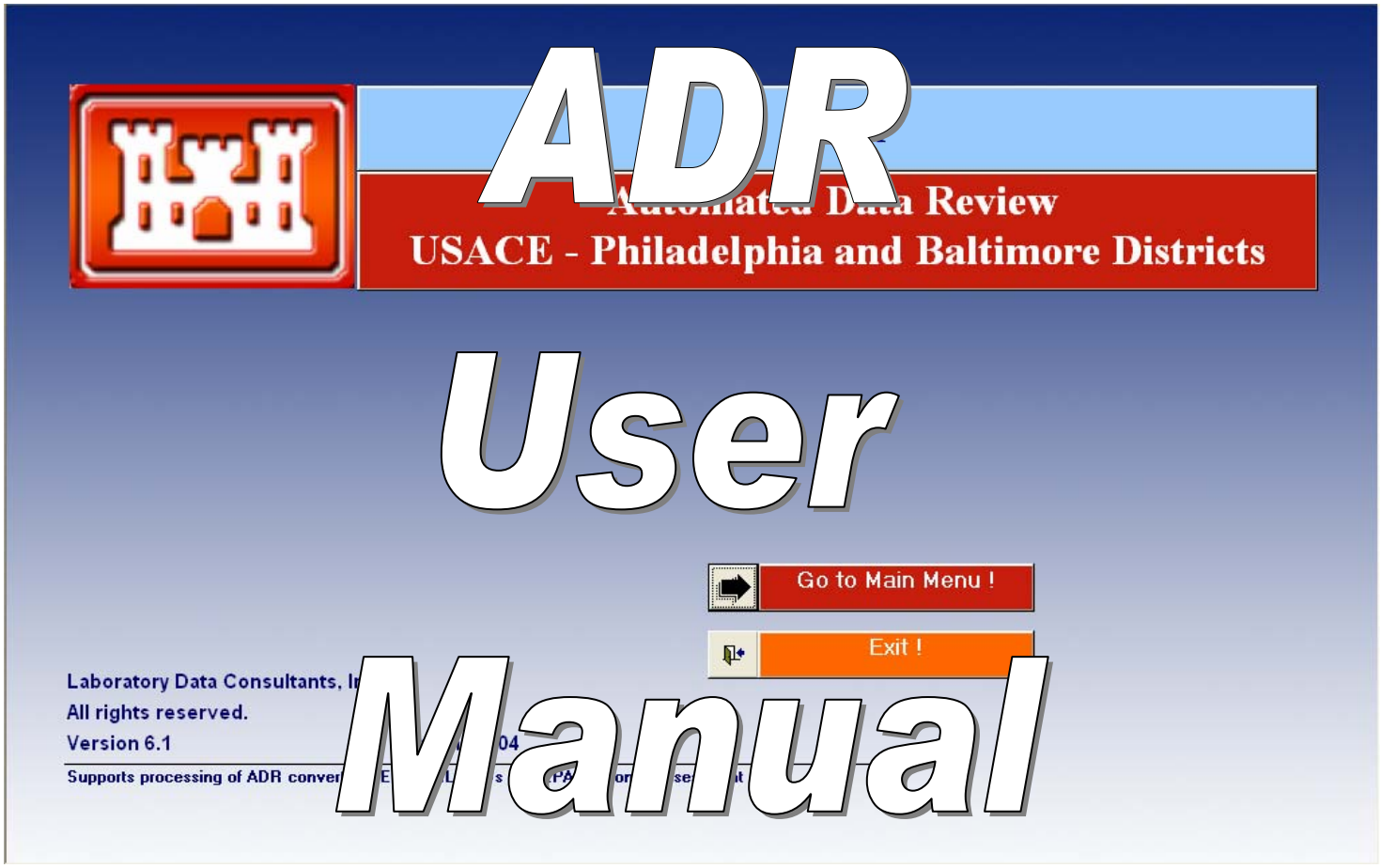
ADR
Automated Data Review
USACE - Philadelphia and Baltimore Districts
User
Manual
Go to Main Menu !
Exit !
Laboratory Data Consultants, In
All rights reserved.
Version 6.1

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1.0
Introduction

1.1 INTRODUCTION

This user's manual is provided as a tool for implementing LDC's data review software. The data review software is a Microsoft Access developed computer application that processes an electronic data deliverables (EDD). The software performs error checks for correctness, and completeness on the laboratory analytical data. The software also performs a data review on the EDD that measures integrity of sample results against associated laboratory quality control, holding times, and method detection limits.

Electronic Data Deliverables

Appendix A lists the file specifications for the EDD. The EDD contains sample result information that also includes quality control batch links and accuracy and precision results for surrogates, laboratory control samples, and matrix spike parameters. The EDD files are constructed as a comma-delimited text files or Microsoft Excel .csv files and imported into the application for processing.

The Project Library

The software uses a project specific library as the reference for EDD error checking and data review. The project library is a electronic representation of the Quality Assurance Project Plan (QAPP). The project library contains all analytes and their data review criteria such as reporting limits, blank contamination rules, holding times, and accuracy and precision criteria for each method and sample matrix within the scope of a particular project. A project library is created for each different project. In this way, the software has the flexibility to assess EDDs according to a particular project's requirements. The software includes a Master Library containing a comprehensive list of the most common methods and target analytes. The Master library serves as a template for creating project libraries. The software includes a utility for creating project libraries to minimize typing.

EDD Error Check

The EDD error check module examines the EDD for correct standard values, missing information in required fields, date/time format, logical date/time values, and duplicate records. The EDD is also checked for target analyte completeness and correct reporting limits. The error checker also examines this EDD to make sure various laboratory QC samples are included depending on the analytical method reported. After checking the EDD for errors the software creates an error log that can be viewed on screen or as a report. Each error is described in detail and if applicable the record number where the error occurs is identified.

EDD error checking is to be performed by the laboratory generating the data. The software can and should be used by the laboratory to check the EDDs and correct them as necessary before delivery to the client.

Automated Data Review

Automated Data Review evaluates the EDD and applies data review qualifiers to sample results based on laboratory quality control results reported in the EDD and project specific data review criteria specified in a project library. Sample result records in the EDD are updated with applicable data review qualifiers and reason codes, which provide a coded explanation for any data review qualification. Appendix D summarizes the software data review logic. The software provides a variety of post data review qualification and outlier reports summarizing the results of the automated data review.

User Responsibilities

The software was developed as a tool to aid data users in evaluating the quality of analytical chemistry results. The application was designed to perform routine data quality accuracy and precision checks traditionally performed through a manual data review. As inherent with all automated processes, the accuracy and integrity of information imported into the application is of vital importance. In working with analytical laboratories, the data user should design an overall Quality Assurance program to routinely verify the accuracy of electronically reported data versus traditional hardcopy data. The frequency of this check will depend on the capability and performance of the laboratory. This program does not include the evaluation of raw data and therefore full data validation (i.e., EPA Level 4) review must be performed manually.

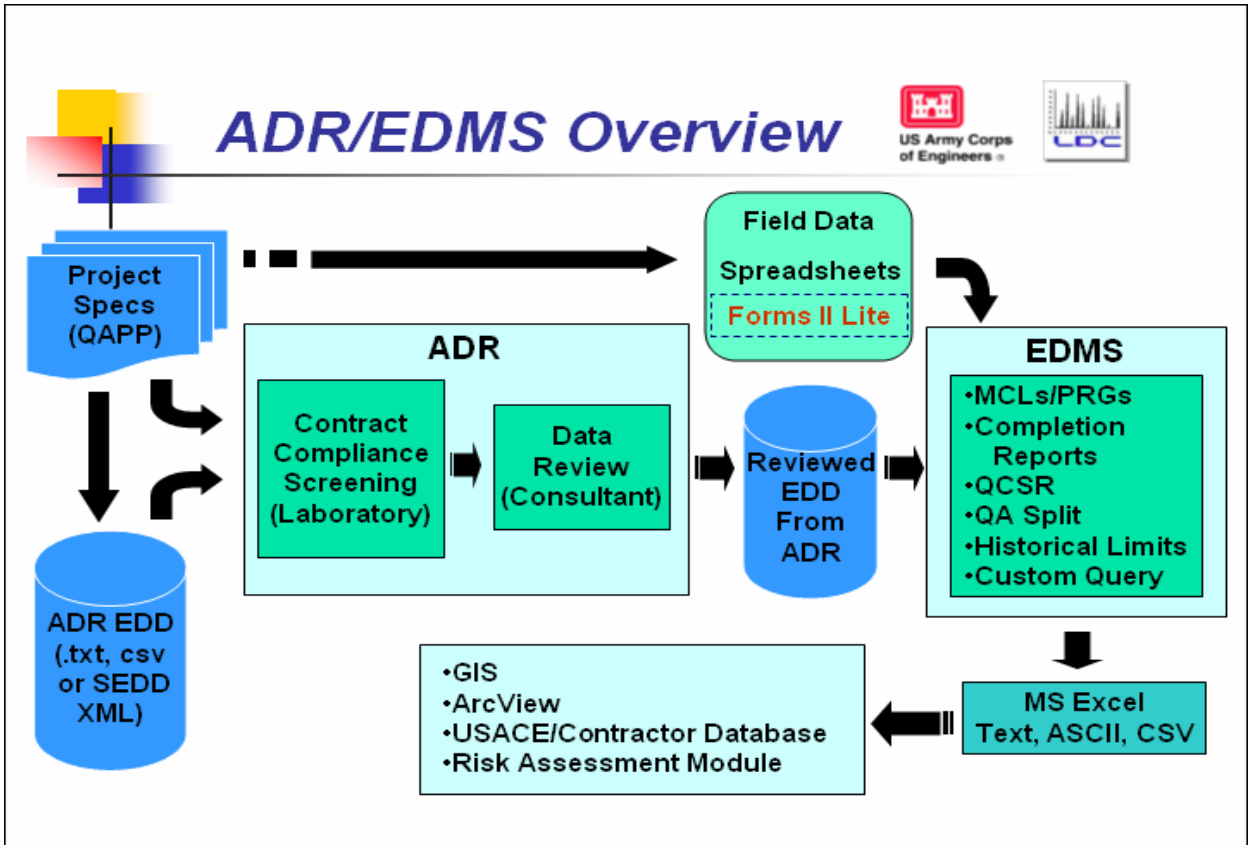
The User Manual

The User Manual contains several sections and appendices. The remaining pages in this section briefly introduce the different functional parts of the software. Section 2 explains how to create and modify project libraries. Section 3 explains how to upload EDDs and run the EDD error check. Section 4 covers the automated review process. Section 5 includes several database utilities and access to the manual. The appendices provide information on EDD file specifications, standard value and required field restrictions for EDDs.

1.2 Process Flow Chart

Figure 1-1 is a flow chart illustrating how the Data Review software and EDMS fit into the data review process.

Figure 1-1
Flow Chart



1.3 MAIN MENUS

The following is a snapshot of the opening screen of the application.

Figure 1-2
Opening Screen

ADR
Automated Data Review
USACE - Philadelphia and Baltimore Districts
Go to Main Menu !
Exit !
Laboratory Data Consultants, Inc.
All rights reserved.
Version 6.1
March 2004
Supports processing of ADR converted SEDD XML EDDs and EPA Region II Assessment

Click on the **Go to Main Menu** button to enter the Main Menu screens. The Main Menu screens provide access to four functional modules. The following pages in this section briefly introduce you to each module. Subsequent sections in this manual provide detailed discussion. The four modules include the following:

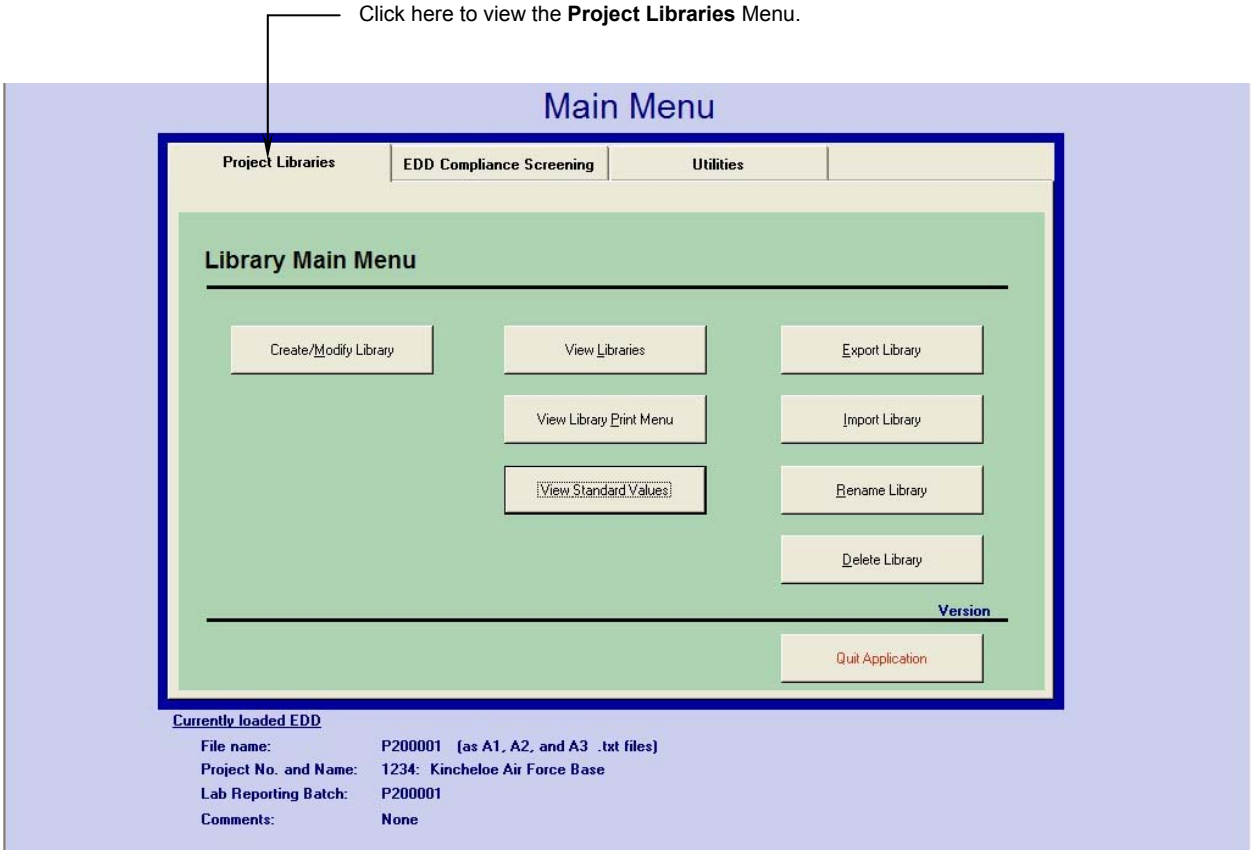
- **Project Libraries Menu**
- **EDD Compliance Screening Menu**
- **EDD Automated Data Review Menu**
- **Utilities Menu**

1.3.1 Project Libraries Main Menu

The Project Libraries main menu gives you access to the following functions:

- **Create new project specific libraries**
- **View and modify the information in project libraries**
- **Import/Export libraries**
- **Delete libraries**
- **Rename libraries**
- **Print project library criteria such as QC limits, target compound lists, reporting limits, etc.**
- **View Standard Values in the database**
- **View and modify reason codes**

Figure 1-3
Projects Libraries Main Menu

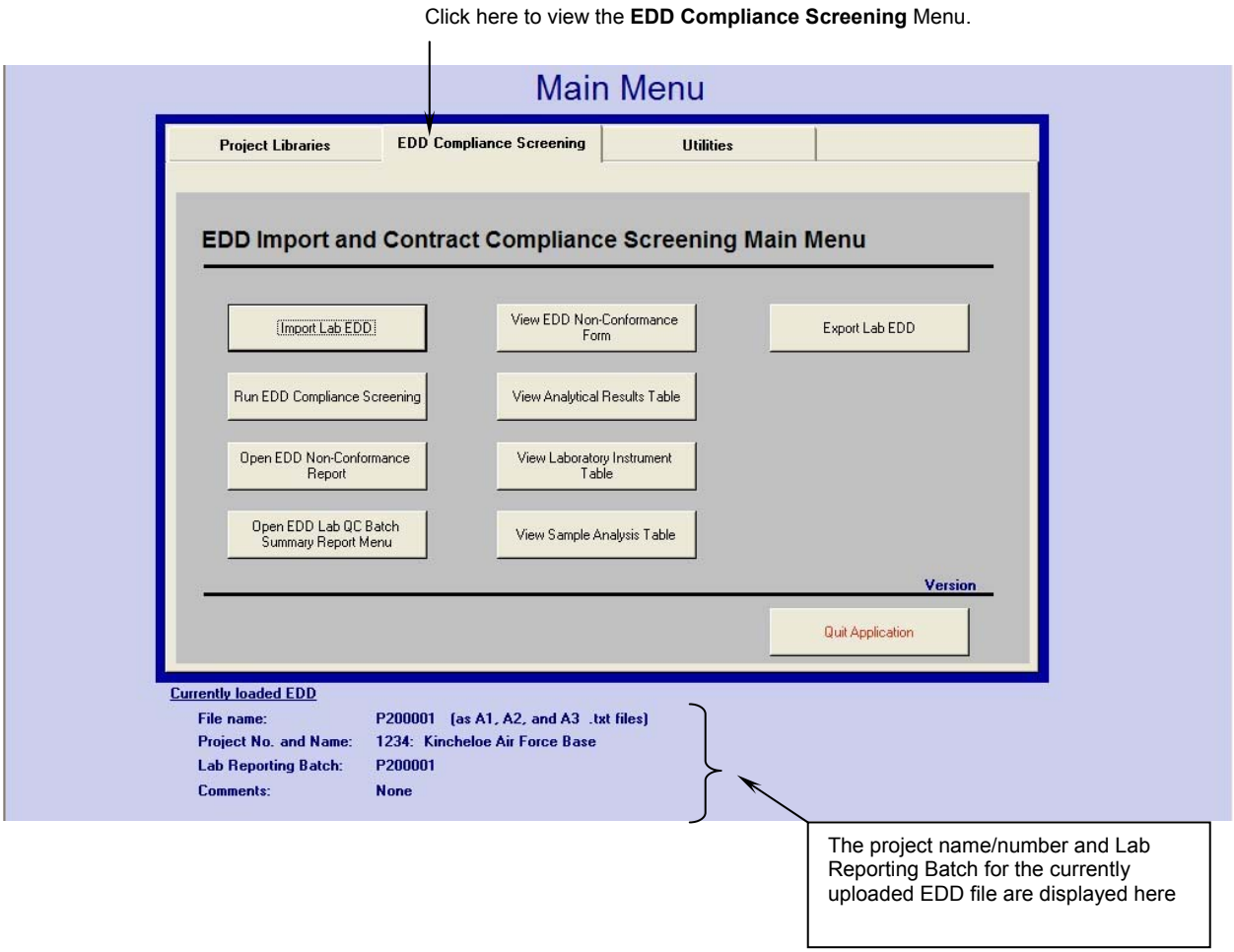


1.3.2 EDD Compliance Screening Main Menu

The EDD Compliance Screening menu gives you access to the following functions:

- **Import EDD files**
- **Run EDD Error Check**
- **View and print the EDD Error Log**
- **View and correct errors in the EDD tables**
- **Save error corrections and export "clean" EDD files**

Figure 1-4
EDD Compliance Screening Main Menu

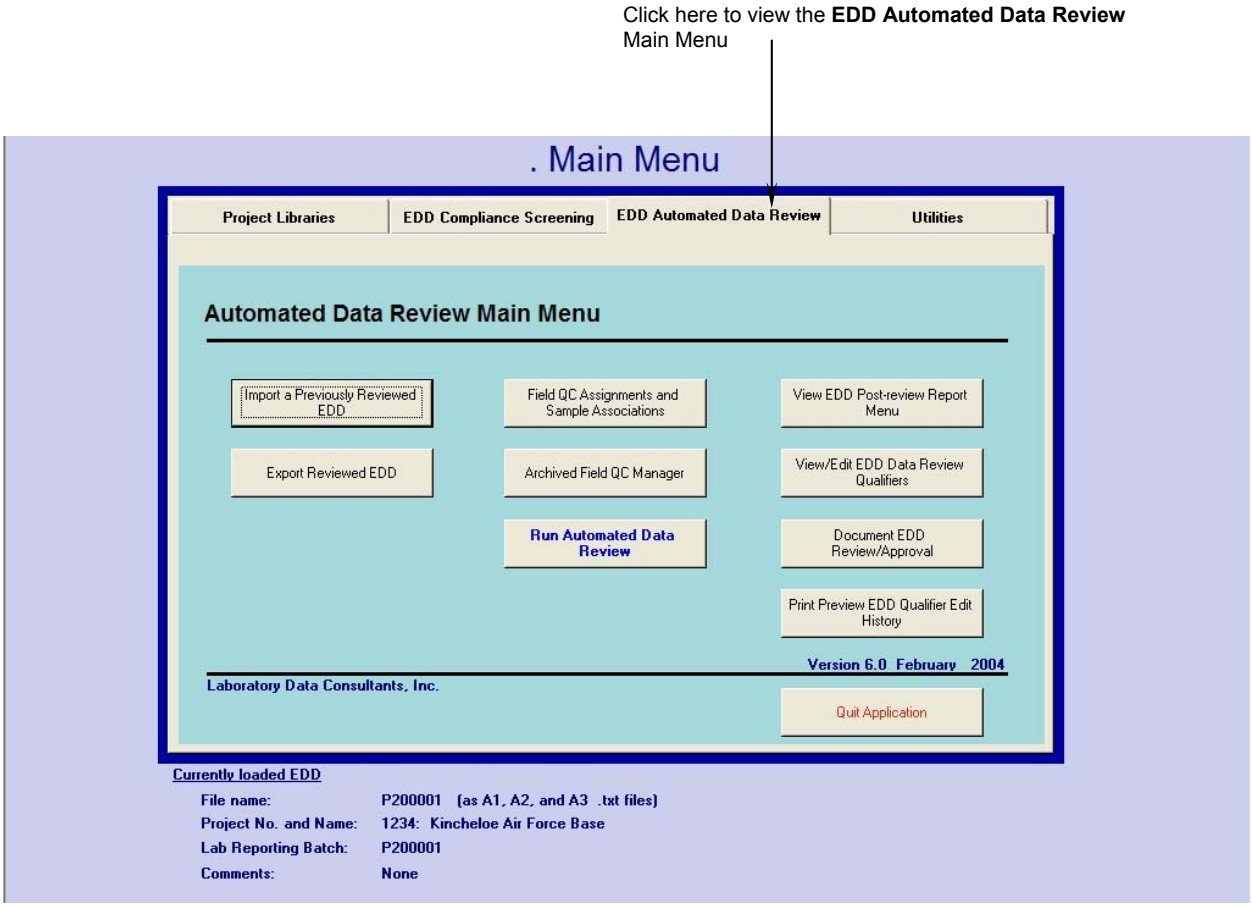

Click here to view the **EDD Compliance Screening** Menu.
Main Menu
Project Libraries
EDD Compliance Screening
Utilities
EDD Import and Contract Compliance Screening Main Menu
Import Lab EDD
View EDD Non-Conformance Form
Export Lab EDD
Run EDD Compliance Screening
View Analytical Results Table
Open EDD Non-Conformance Report
View Laboratory Instrument Table
Open EDD Lab QC Batch Summary Report Menu
View Sample Analysis Table
Version
Quit Application
Currently loaded EDD
File name: P200001 (as A1, A2, and A3 .txt files)
Project No. and Name: 1234: Kincheloe Air Force Base
Lab Reporting Batch: P200001
Comments: None
The project name/number and Lab Reporting Batch for the currently uploaded EDD file are displayed here

1.3.3 Automated Data Review Process Main Menu

The Data Review menu gives you access to the following functions:

- **Select and assign Field QC/Sample associations**
- **Run the data review process**
- **View data review results**
- **Document EDD review and changes to data review qualifiers**
- **View EDD edit history**
- **Import/Export reviewed EDDs**

Figure 1-6
EDD Automated Data Review Main Menu

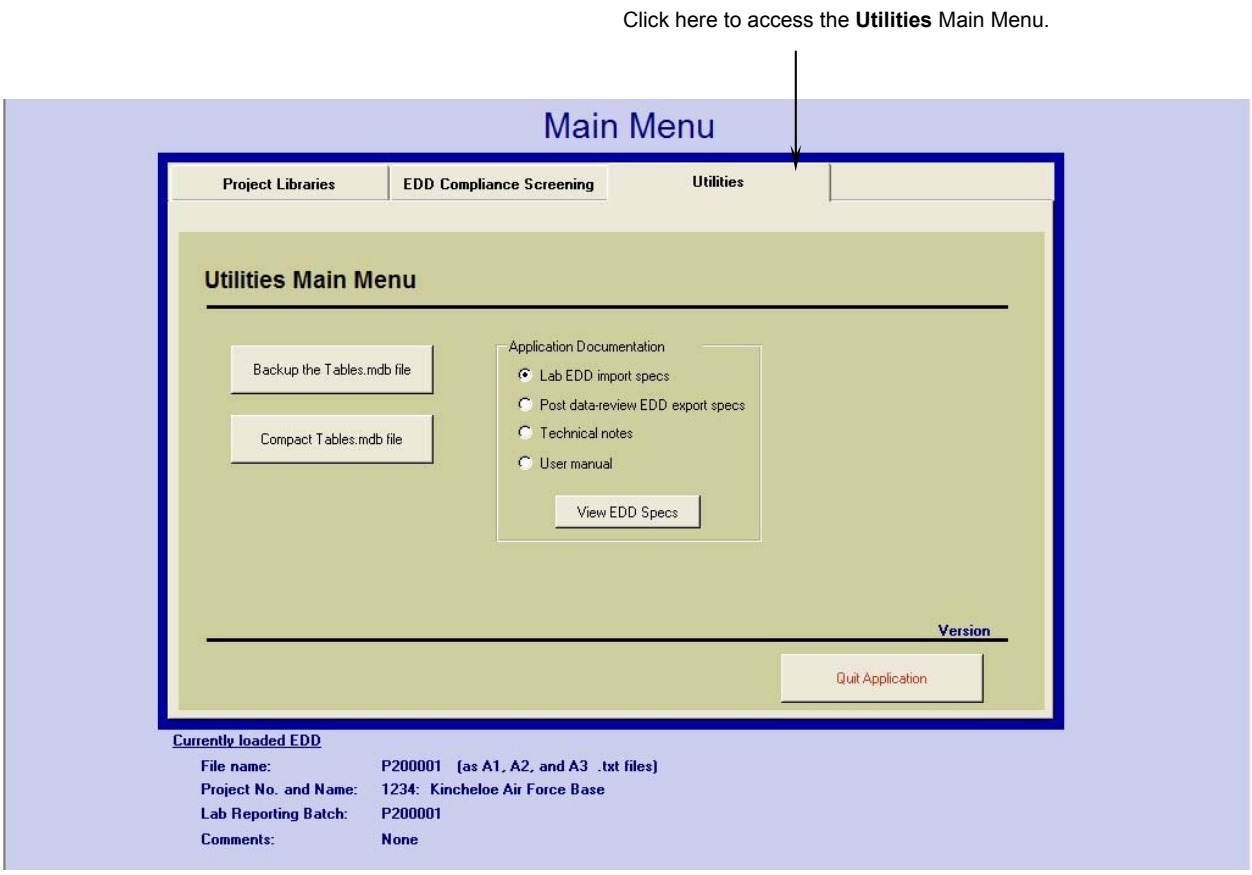

Click here to view the **EDD Automated Data Review** Main Menu
. Main Menu
Project Libraries
EDD Compliance Screening
EDD Automated Data Review
Utilities
Automated Data Review Main Menu
Import a Previously Reviewed EDD
Field QC Assignments and Sample Associations
View EDD Post-review Report Menu
Export Reviewed EDD
Archived Field QC Manager
View/Edit EDD Data Review Qualifiers
Run Automated Data Review
Document EDD Review/Approval
Print Preview EDD Qualifier Edit History
Version 6.0 February 2004
Laboratory Data Consultants, Inc.
Quit Application
Currently loaded EDD
File name: P200001 (as A1, A2, and A3 .txt files)
Project No. and Name: 1234: Kincheloe Air Force Base
Lab Reporting Batch: P200001
Comments: None

1.3.4 Utilities Main Menu

The utilities menu gives you access to the following functions:

- **View and Print the User Manual**
- **Backup the Tables.mdb file**
- **Compact the Tables.mdb file**

Figure 1-7
Utilities Main Menu



1.4 Outline of Process

Consultant

1. Create the project library (e-qapp) using the Master Library or another project library as the source (Section 2.3).

2. Export the project library and send it to the laboratory for review, approval, and project use (Section 2.7).

Laboratory

3. Analyze samples and generate EDD (Appendix A).

4. Import EDD into Error Check software (Section 3.3).

5. Run EDD error check(Section 3.4) and correct and/or explain errors.

6. Export EDD and error report (Section 3.10) then send EDD to consultant.

Consultant

7. Import EDD into Data Review software (Section 3.3).

8. Print/review EDD error log/report (Sections 3.5 and 3.6).

9. Rerun EDD error check against project library to confirm laboratory EDD error check (Section 3.4).

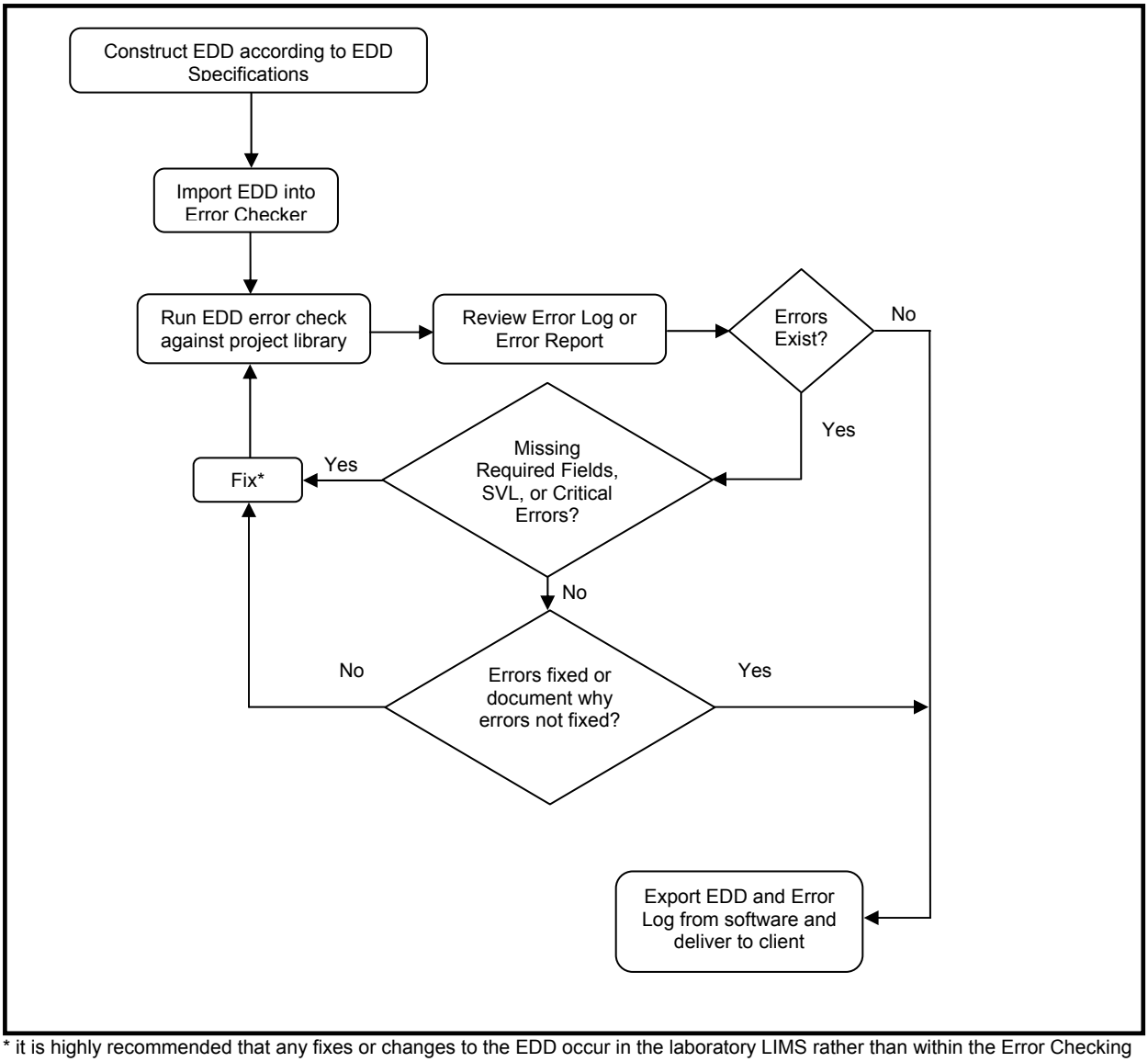
10. Assign field QC in the EDD if applicable (Section 4.2).

11. Run automated data review (Section 4.4).

12. Review post data-review result on screen and/or reports (Sections 4.6 and 4.7). Make any necessary changes to data-review qualifiers (Section 4.6.1).

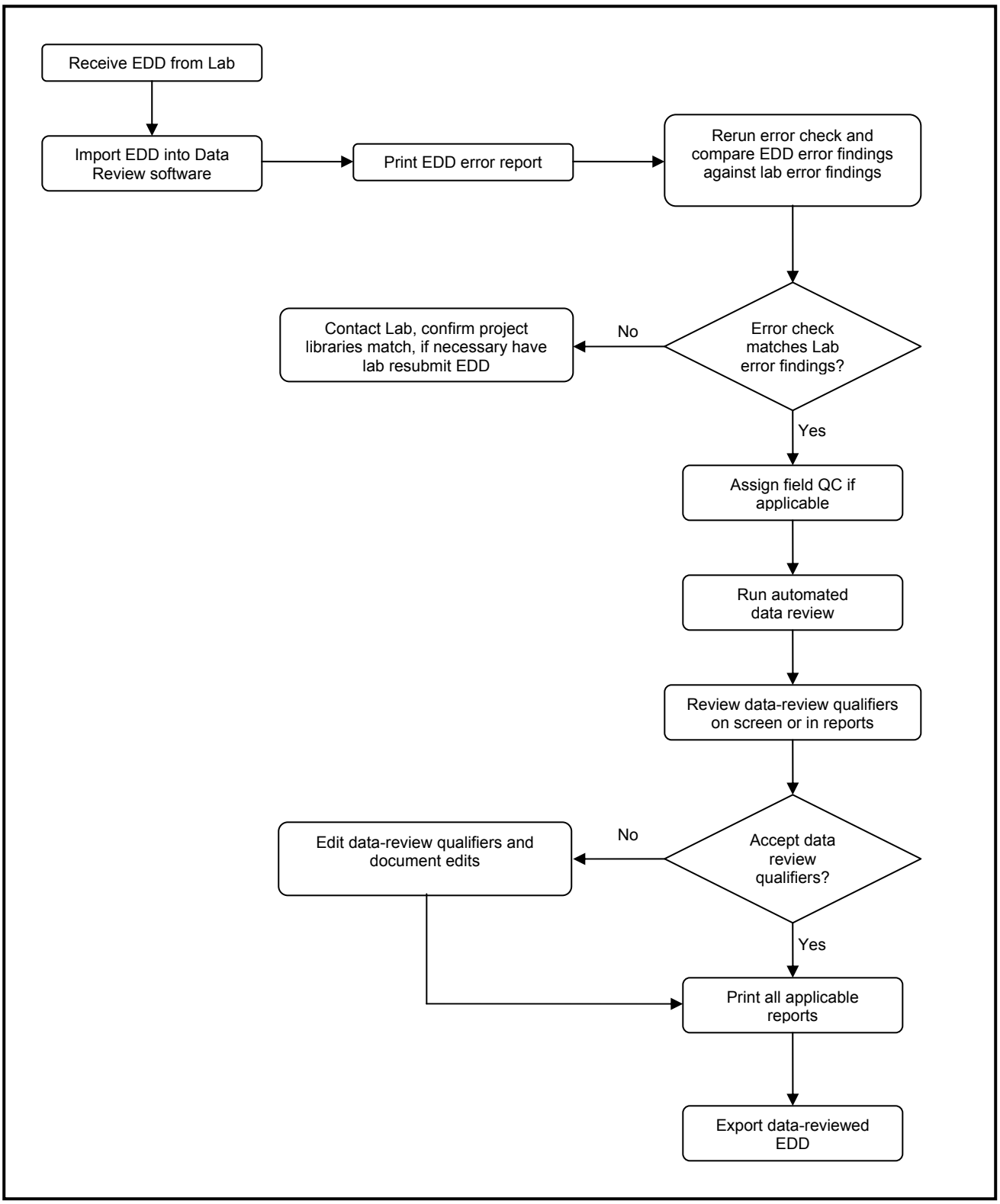
13. Export data-reviewed EDD (Section 4.8) and import into EDMS.

1.4.1 Laboratory Process for the Electronic Data Deliverable



* it is highly recommended that any fixes or changes to the EDD occur in the laboratory LIMS rather than within the Error Checking software to ensure laboratory hardcopy reports match the EDD.

1.4.2 Consultant Process for the Electronic Data Deliverable


Receive EDD from Lab
Import EDD into Data Review software
Print EDD error report
Rerun error check and compare EDD error findings against lab error findings
Error check matches Lab error findings?
No
Contact Lab, confirm project libraries match, if necessary have lab resubmit EDD
Yes
Assign field QC if applicable
Run automated data review
Review data-review qualifiers on screen or in reports
Accept data review qualifiers?
No
Edit data-review qualifiers and document edits
Yes
Print all applicable reports
Export data-reviewed EDD

2.0
Library Module

2.1 LIBRARY FILES MENU

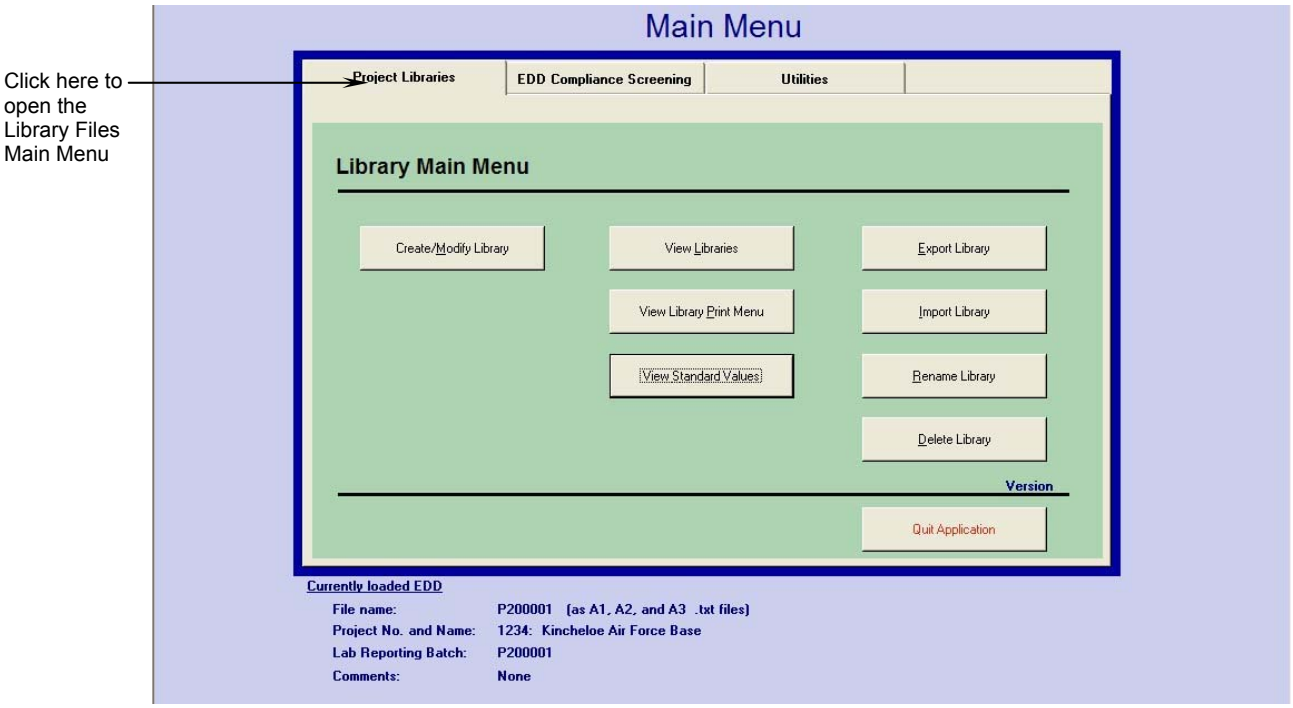
The Project Library

Every time you run the EDD Error Check or EDD Data Review you must first select a project library. The project library is a reference database the user populates with information about all the analytical methods, target analytes, quality control, and data review requirements specified by the project. The EDD Error Check and the EDD Data Review reference the project library while processing EDD data. Before running any of these modules, a project library must exist with the following information:

- Analytical methods and sample matrices specified by the project
- Analyte names and client analyte IDs for all target analytes to be reported for each analytical method and sample matrix
- Project reporting limit values and concentration units for all target analytes in each method and sample matrix
- Holding times for each method and sample matrix
- Identity of spike and surrogate compounds for each method and sample matrix
- Accuracy and precision limits for surrogates, matrix spikes, laboratory control samples, laboratory and field duplicates for each method and sample matrix
- Blank contamination rules

The Create/Modify Library function provides an easy means for building new project libraries and modifying existing project libraries. A new project library is built or modified by selecting information from an existing (source) library, then appending that information into your project library (destination library). You may use more than one library as a source if you find that different libraries provide better matches for different methods and sample matrices in your project. Since the source library contains most of the information you need, minimal typing is required when building project libraries. Information such as holding times, method numbers, analyte names, Client analyte IDs, reporting limits, and data review criteria can be automatically transferred from a source library into your project library depending on the scope of information you select. The only typing usually required is for editing quality control values, such as reporting limits, and accuracy and precision control limits to match the values specified by the project.

Figure 2-1
Libraries Main Menu



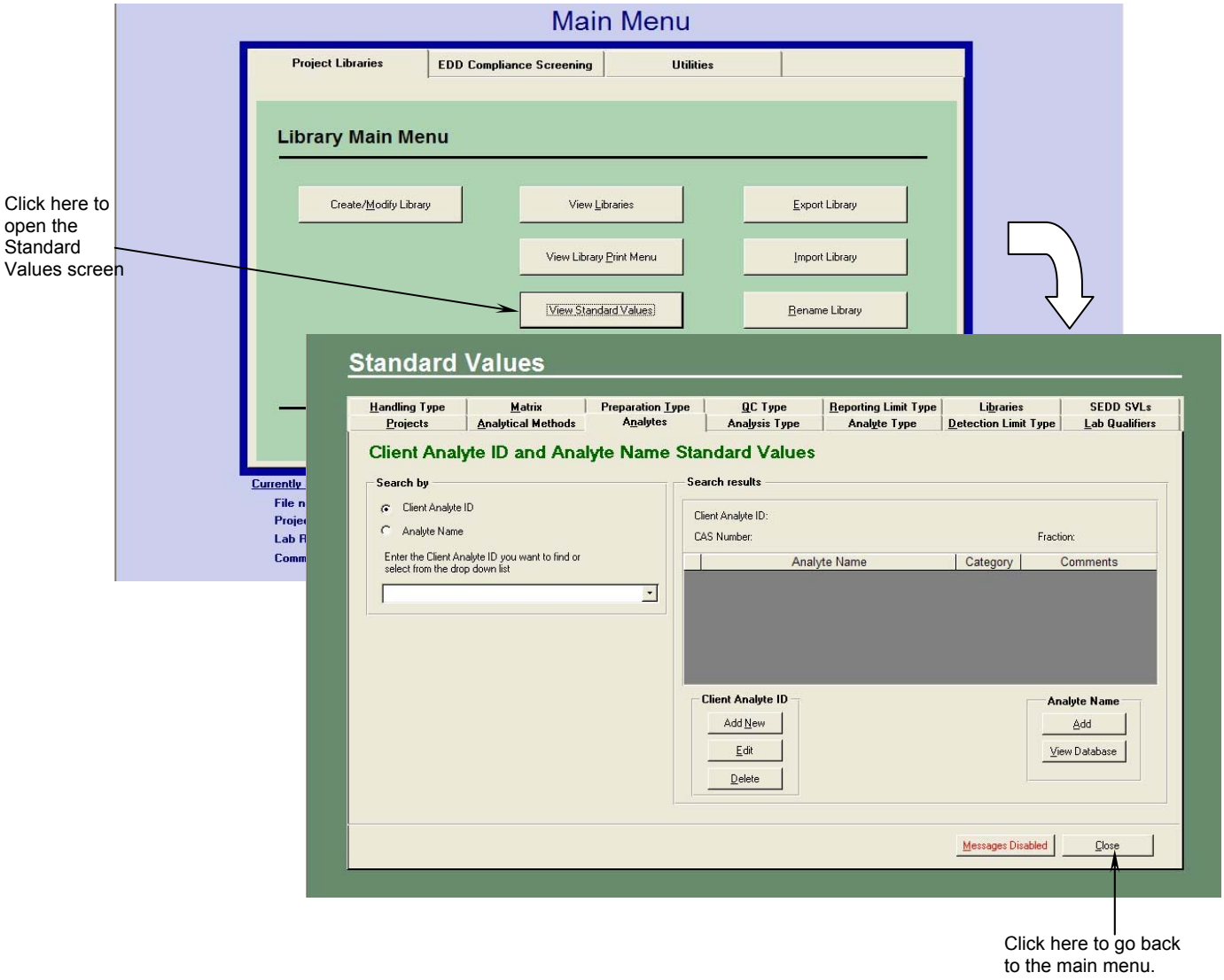
The Master Library

The software includes a Master Library that contains comprehensive method/matrix/analyte list for SW-846 methods. Each record is populated with Client analyte IDs, Analyte Name and units. Use the Master Library as the source for creating your first project libraries. As you build project libraries, you will likely use these as your sources for subsequent project libraries because they will more closely match your project requirements compared with the Master Library.

2.2 STANDARD VALUES

The standard value tables control the methods, client analyte IDs, and analyte names that can be entered into project libraries. These values are controlled by the project manager and will be entered into the standard value tables. From the **Main Menu**, click on the **Libraries** tab, then click on the **Standard Values** button to open the **Standard Values** screen. This screen allows you to select the standard value to add, edit, or delete. (Note: There are three standard values that cannot be added to or modified. These are **Analyte Type, Matrix** and **QC Type**. All other standard values can be added to or modified).

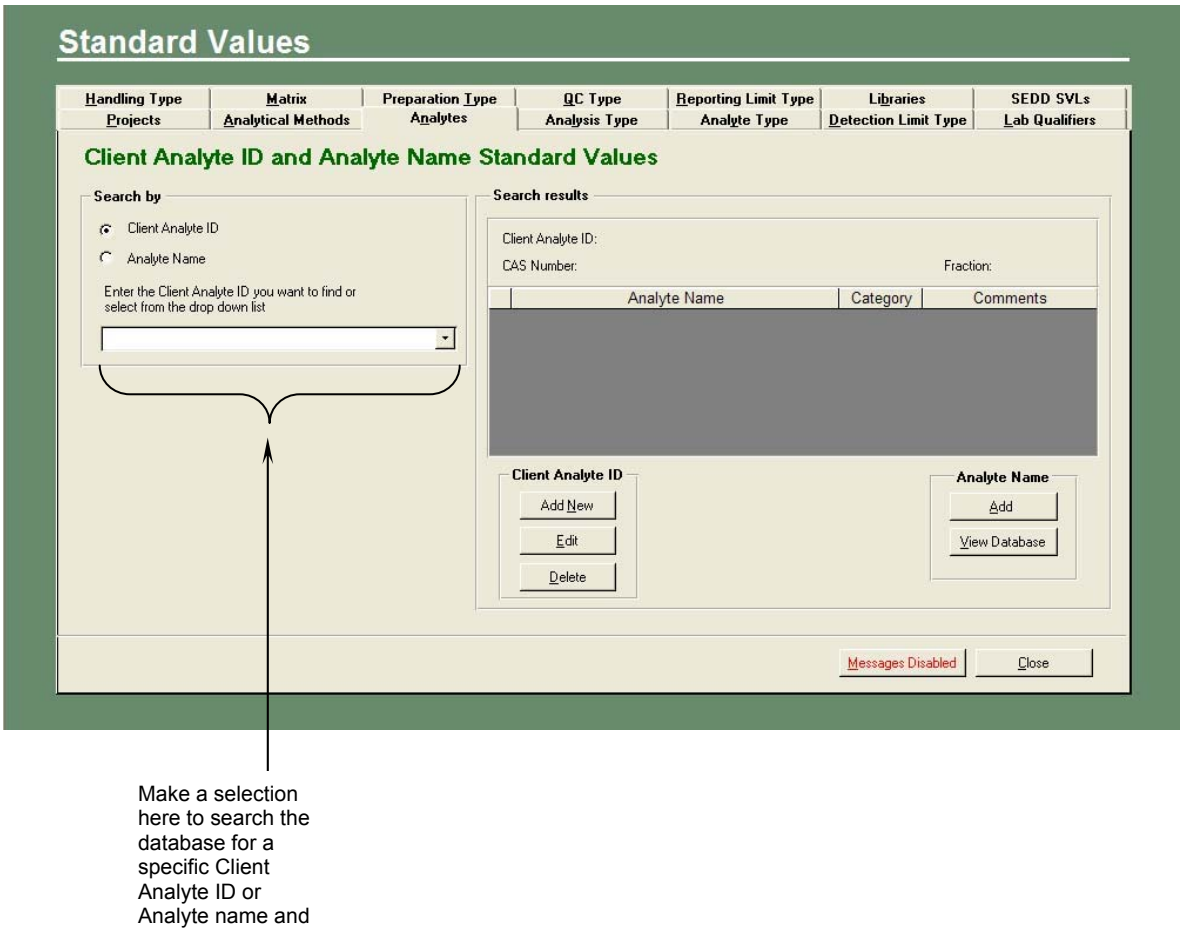
Figure 2-2



2.2.1 Analytes Standard Values

When the **Standard Values** button is clicked, the opening default screen is the **Analytes** standard values. From this screen you may search the database to find if an analyte exists and retrieve information about it. You can add, edit, or delete a Client Analyte ID or associate a new Analyte name to an existing Client Analyte ID.

Figure 2-2

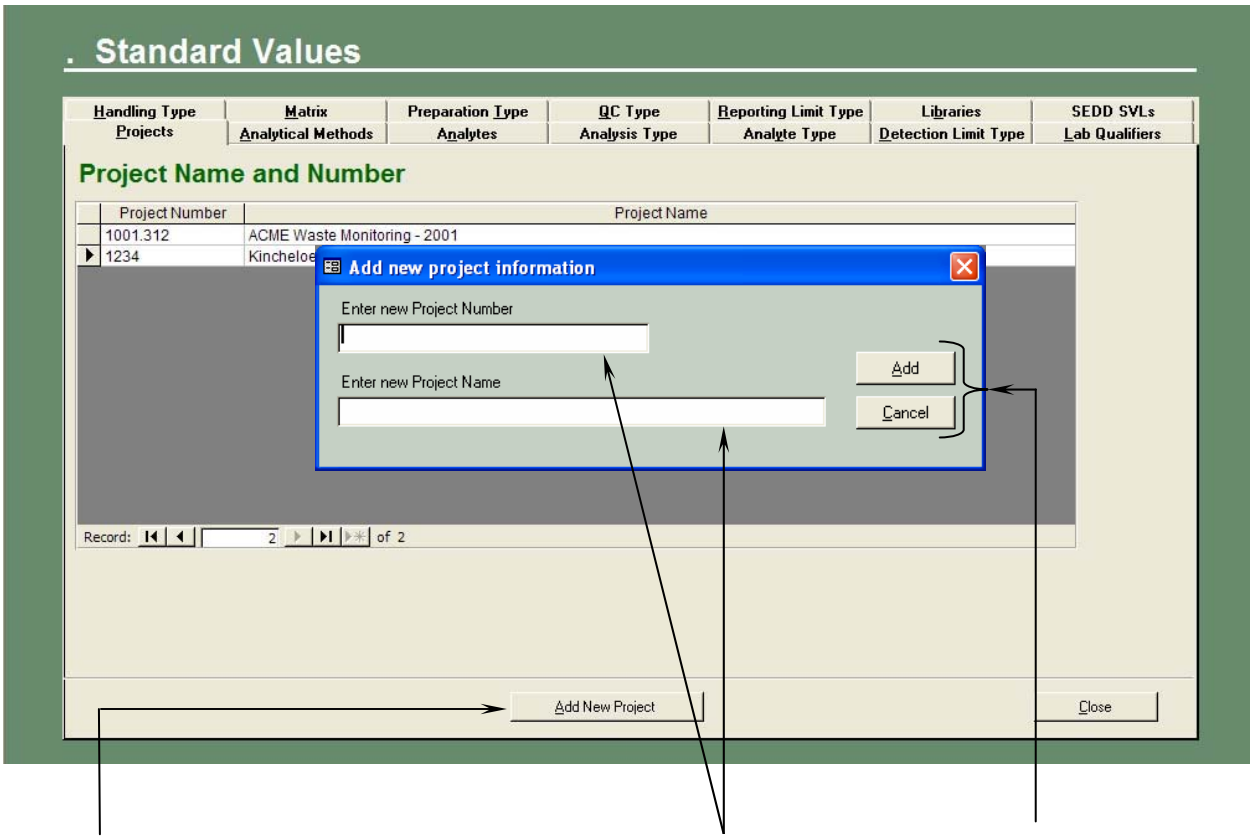


Make a selection here to search the database for a specific Client Analyte ID or Analyte name and retrieve information about it.

2.2.2 Standard Value Additions

Standard Values which can be modified by the user (**Projects, Handling Type, Analytical Methods, Analytes, Preparation Type, Analysis Type, Reporting Limit Type, Detection Limit Type, Libraries** and **Lab Qualifier**) are all modified in a similar manner. The Projects standard value tab is used as an example. The information asked for on the **Add new standard value** pop-up screen will vary depending on which Standard Value tab you are in.

Figure 2-3



1. Click here to open the **Add new Standard Value** window.

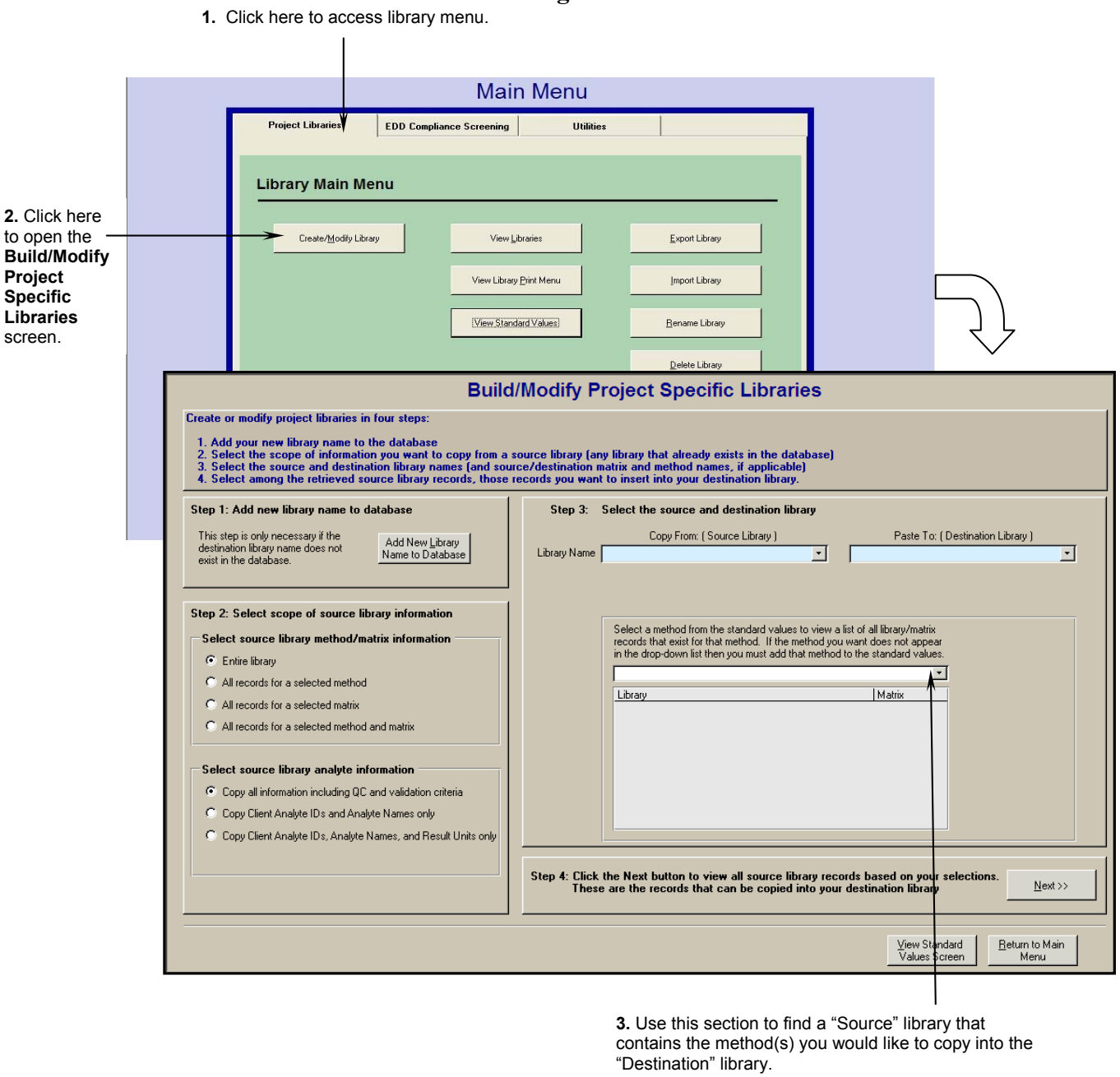
2. Enter the required information in the pop-up window.

3. Click the **Add** button to add the record to the database. Click **Cancel** to close the window without adding the new standard value to the database.

2.3 CREATING AND APPENDING A PROJECT LIBRARY

From the Main Menu, click on the **Library Files** tab to access the Library Files options, then click on **Create/Append Library** button to open the **Build/Modify Project Libraries** screen. This screen allows the user to create a new library name, select both the source and destination libraries, and to select specific information from the source library to make available for copying into a destination library.

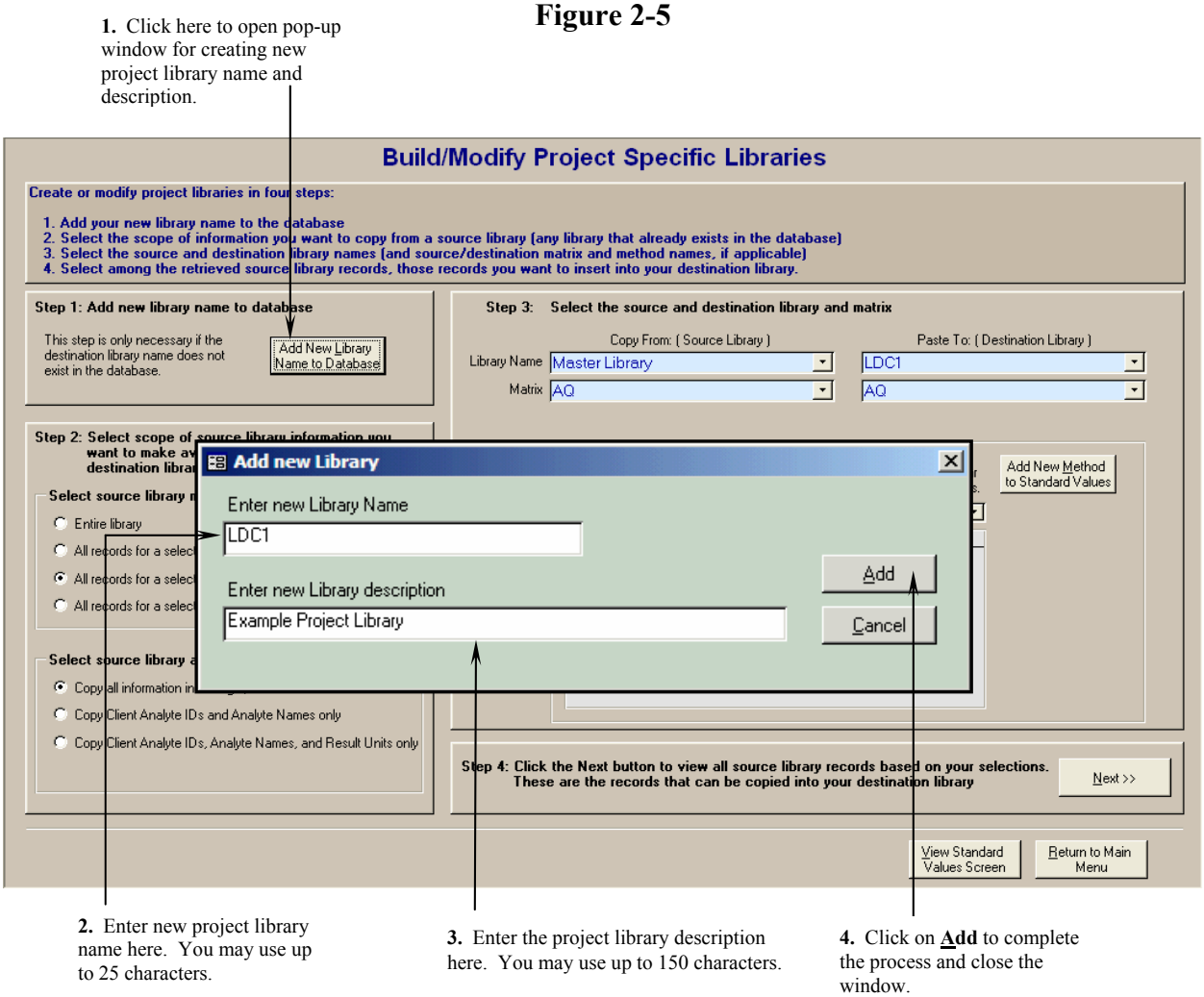
Figure 2-4


1. Click here to access library menu.
Main Menu
Project Libraries
EDD Compliance Screening
Utilities
Library Main Menu
2. Click here to open the Build/Modify Project Specific Libraries screen.
Create/Modify Library
View Libraries
Export Library
View Library Print Menu
Import Library
View Standard Values
Rename Library
Delete Library
Build/Modify Project Specific Libraries
Create or modify project libraries in four steps:
1. Add your new library name to the database
2. Select the scope of information you want to copy from a source library (any library that already exists in the database)
3. Select the source and destination library names (and source/destination matrix and method names, if applicable)
4. Select among the retrieved source library records, those records you want to insert into your destination library.
Step 1: Add new library name to database
This step is only necessary if the destination library name does not exist in the database.
Add New Library Name to Database
Step 2: Select scope of source library information
Select source library method/matrix information
Entire library
All records for a selected method
All records for a selected matrix
All records for a selected method and matrix
Select source library analyte information
Copy all information including QC and validation criteria
Copy Client Analyte IDs and Analyte Names only
Copy Client Analyte IDs, Analyte Names, and Result Units only
Step 3: Select the source and destination library
Copy From: (Source Library)
Paste To: (Destination Library)
Library Name
Select a method from the standard values to view a list of all library/matrix records that exist for that method. If the method you want does not appear in the drop-down list then you must add that method to the standard values.
Library
Matrix
Step 4: Click the Next button to view all source library records based on your selections. These are the records that can be copied into your destination library
Next >>
View Standard Values Screen
Return to Main Menu
3. Use this section to find a "Source" library that contains the method(s) you would like to copy into the "Destination" library.

Step 1: Create the New Library Name

If you want to add records to a new library, you must first create the new library name. Click on the **Add New Library Name to Database** button to open a pop-up window. Enter the new library name, using up to 25 characters, in the blank field under the heading Enter new Library Name. Enter a library description, using up to 150 characters, in the blank field under the heading Enter new Library Description. After entering the new project library name and description, click on the **Add** button again to close the pop-up window. Skip Step 1 if you want to append records into an existing project library.

Figure 2-5


1. Click here to open pop-up window for creating new project library name and description.
Build/Modify Project Specific Libraries
Create or modify project libraries in four steps:
1. Add your new library name to the database
2. Select the scope of information you want to copy from a source library (any library that already exists in the database)
3. Select the source and destination library names (and source/destination matrix and method names, if applicable)
4. Select among the retrieved source library records, those records you want to insert into your destination library.
Step 1: Add new library name to database
This step is only necessary if the destination library name does not exist in the database.
Add New Library Name to Database
Step 3: Select the source and destination library and matrix
Copy From: (Source Library)
Paste To: (Destination Library)
Library Name
Master Library
LDC1
Matrix
AQ
AQ
Add New Method to Standard Values
Add new Library
Enter new Library Name
LDC1
Enter new Library description
Example Project Library
Add
Cancel
Select source library
Entire library
Copy all information in
Copy Client Analyte IDs and Analyte Names only
Copy Client Analyte IDs, Analyte Names, and Result Units only
Step 4: Click the Next button to view all source library records based on your selections. These are the records that can be copied into your destination library
Next >>
View Standard Values Screen
Return to Main Menu
2. Enter new project library name here. You may use up to 25 characters.
3. Enter the project library description here. You may use up to 150 characters.
4. Click on Add to complete the process and close the window.

Step 2a: Select the Scope of Information from the Source Library

Select an option that specifies the scope of information from an existing (source) library that you want to make available for copying into the destination library. The option group at the top of the Step 2 box offers four choices for selecting the scope of information from a source library (see Step 2a in Figure 2-6). The four options and how to use them are described below.

Options for Selecting the Scope of Information from a Source Library

Option:	Entire Library
	Choose this option to select all records from all methods and sample matrices in the source project library to make available for copying into the destination library. The source library name is entered in Step 3. Use this choice when all or most of the methods and analytes in the source library records closely match those required in the destination project library.
Option:	All records for a selected method
	Choose this option to select all matrix records from a single method in the source library to make available for copying into the destination library. The method is entered in Step 3. Use this choice for appending records into a destination project library one method at a time. This option is useful when you want to add records to the destination library from methods in different source libraries.
Option:	All records for a selected matrix
	Choose this option to select all method records for a single matrix from the source library to make available for copying into the destination library. The matrix is entered in Step 3. Use this option when you want to add records for a single matrix to a project library and your source library methods and analyte lists closely match those of your project.
Option:	All records for a selected method and matrix
	Choose this option to select records from a single method and single matrix in the source library to make available for copying into the destination library. The method and matrix are selected in Step 3. Use this option for adding records to a project library when you only want information from one method and one matrix. This choice is useful when you want to add records to your project library using methods from different source libraries, or when you want to add records for only one method and matrix to your project library.

Step 2b: Select the Fields to Copy to the New Library

Select an option that specifies the fields from the source library records you want to make available for copying into the new project library or destination library. The option group at the lower left of the screen offers three options (see Step 2b in Figure 2-6). The three options and when to use them are described below.

Options for Selecting the Fields to Copy to the New Library files

Option:	Copy all Information including QC and validation criteria
	Choose this option to select the Client Analyte IDs, analyte names, detection and reporting limits, and quality control limits from the source library records selected in Step 2 and entered in Step 3. Use this option when the all or most records in the source library closely match those required in the destination library.
Option:	Copy Client Analyte IDs and Analyte Names only
	Choose this option to select the Client Analyte IDs (CAS numbers) and analyte names from the source library records selected in Step 2 and entered in Step 3. This option is useful when the source library has target analytes similar to the source library but other parameters such as reporting limits, units, and QC limits are different in your destination library. Choose a source library with methods and associated target analytes that closely match those of the new project or destination library.
Option:	Copy Client Analyte IDs, Analyte Names, and Result Units only
	Choose this option to select the Client Analyte IDs (CAS numbers), analyte names, and results units from the source library records selected in Step 2 and entered in Step 3. This option is used in the same manner as the previous option, but in this case the units also match.

Step 3a: Enter Source Library Information

Enter the source library name, analytical method, and matrix, as applicable, in the fields displayed under the heading **Copy From: (Source Library**). The fields available depend on the option selected in Step 2. Make selections from the pull down menus for each field, or type in the values (see Step 3a in Figure 2-6). Only Standard Values are accepted.

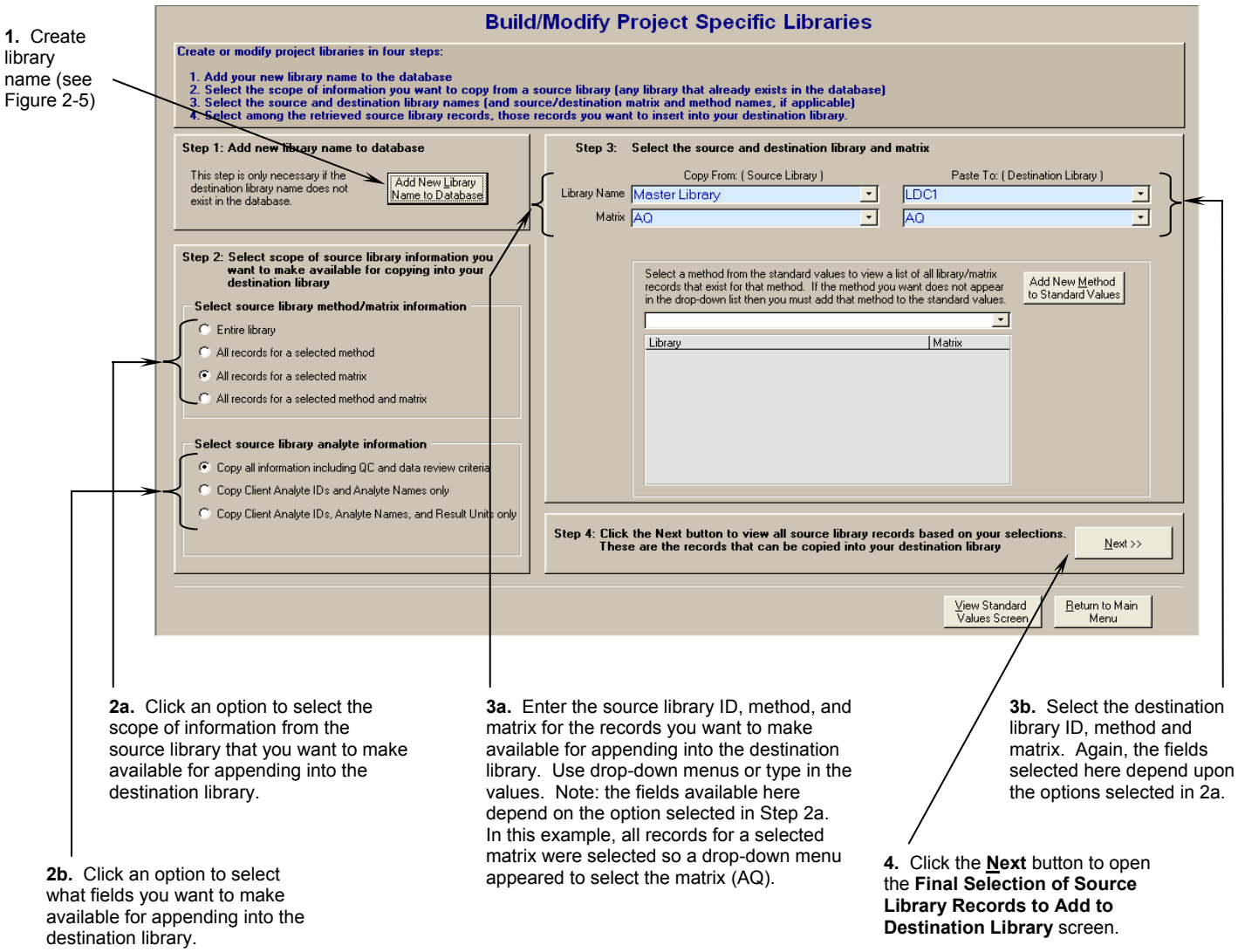
Step 3b: Enter Destination Library Information

Enter the destination library, analytical method, and sample matrix, as applicable, in the fields displayed under the heading **Paste To: (Destination Library)**. The fields available depend on the option selected in Step 2. Make selections from the pull down menus for each field, or type the values (see Step 3b in Figure 2-6). Only Standard Values are accepted. Note: The Destination Library name must be created before you can select it (refer to Step 1).

Step 4: Open the Selected Library Records Screen

Once the source and destination library information are entered, click on the **Next** button (see Step 4 in Figure 2-6) to open the **Final Selection of Source Library Records to Add to Destination Library** Screen.

Figure 2-6
Summary of Steps 1 through 4 in the Create/Append Library Process


1. Create library name (see Figure 2-5)
Build/Modify Project Specific Libraries
Create or modify project libraries in four steps:
1. Add your new library name to the database
2. Select the scope of information you want to copy from a source library (any library that already exists in the database)
3. Select the source and destination library names (and source/destination matrix and method names, if applicable)
4. Select among the retrieved source library records, those records you want to insert into your destination library.
Step 1: Add new library name to database
This step is only necessary if the destination library name does not exist in the database.
Add New Library Name to Database
Step 2: Select scope of source library information you want to make available for copying into your destination library
Select source library method/matrix information
Entire library
All records for a selected method
All records for a selected matrix
All records for a selected method and matrix
Select source library analyte information
Copy all information including QC and data review criteria
Copy Client Analyte IDs and Analyte Names only
Copy Client Analyte IDs, Analyte Names, and Result Units only
Step 3: Select the source and destination library and matrix
Copy From: (Source Library)
Paste To: (Destination Library)
Library Name
Master Library
LDC1
Matrix
AQ
AQ
Select a method from the standard values to view a list of all library/matrix records that exist for that method. If the method you want does not appear in the drop-down list then you must add that method to the standard values.
Add New Method to Standard Values
Library
Matrix
Step 4: Click the Next button to view all source library records based on your selections. These are the records that can be copied into your destination library
Next >>
View Standard Values Screen
Return to Main Menu
2a. Click an option to select the scope of information from the source library that you want to make available for appending into the destination library.
2b. Click an option to select what fields you want to make available for appending into the destination library.
3a. Enter the source library ID, method, and matrix for the records you want to make available for appending into the destination library. Use drop-down menus or type in the values. Note: the fields available here depend on the option selected in Step 2a. In this example, all records for a selected matrix were selected so a drop-down menu appeared to select the matrix (AQ).
3b. Select the destination library ID, method and matrix. Again, the fields selected here depend upon the options selected in 2a.
4. Click the Next button to open the Final Selection of Source Library Records to Add to Destination Library screen.

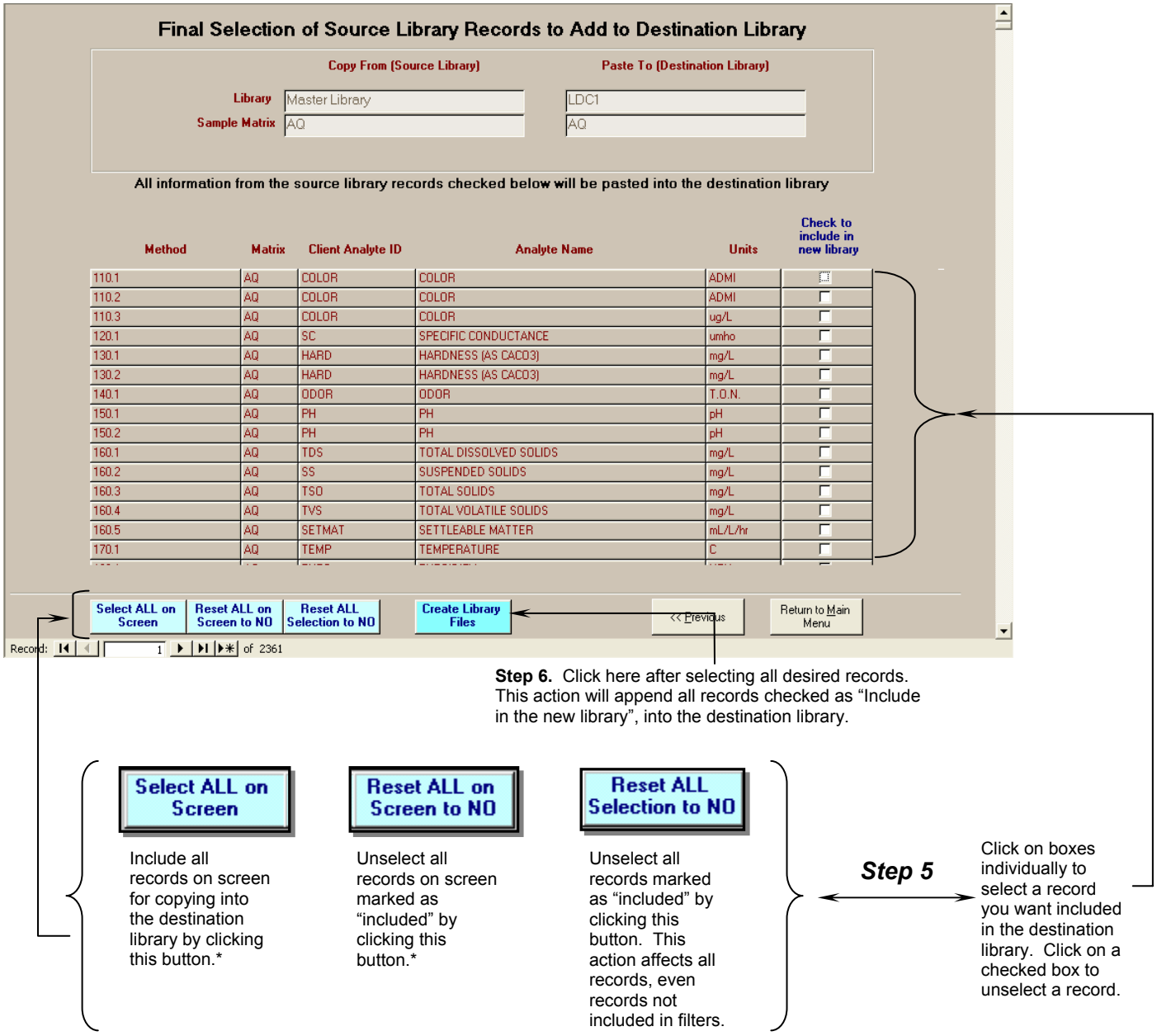
Step 5: Select Records to Copy

The **Final Selection of Source Library Records to Add to Destination Library** Screen displays all the records, based on your selections and entries in Steps 2 through 4 that are available for copying into the destination library (see Step 5 in Figure 2-7). In this step, you must indicate the selected the records from your choices that you want included in the destination library by clicking in the check box located at the far right of each record. This action places a check mark in the box indicating that record is to be included in the destination library. Clicking on the box again clears the check mark. Alternatively, you may select all records on screen by clicking the **Select ALL on Screen** button, then unselect the records you don't want to copy by clicking on the checked box (see Step 5 in Figure 2-7). You can unselect all checked records on screen by clicking on the **Reset ALL on Screen to NO** button. Note that both buttons only affect records displayed on screen, including those accessible by using the scroll bar. The Access filter button on the toolbar may be used to filter the available records. If the filter function was used to display the current records on screen, then only the filtered records on screen (including those accessible using the scroll bar) can be selected or unselected. Records not included in the filter are unaffected by the **Select ALL on Screen** and **Reset ALL on Screen to NO** buttons. The **Reset ALL Selection to NO** button unselects all checked records, even records not on screen (i.e., records outside a filter).

Step 6: Append Records to Destination Library

After selecting records in Step 7, click on the button **Create Library Files** (See Step 6 in Figure 2-7). This action appends the records you selected from the source library in Step 5 to the destination library. This completes the process. Additional records can be appended, if necessary, by repeating Steps 2 through 6. After this step is completed, a pop-up window will appear stating that you have successfully appended the selected records in to the destination library. The pop-up window will give you the choice of viewing the newly created library now by clicking on the Yes button. The library can also be viewed later by returning to the Main Library Menu and clicking on the **View Libraries** button to view and edit the information in your project-specific library.

Figure 2-7
Summary of Steps 5 and 6 in the Create/Append Library Process

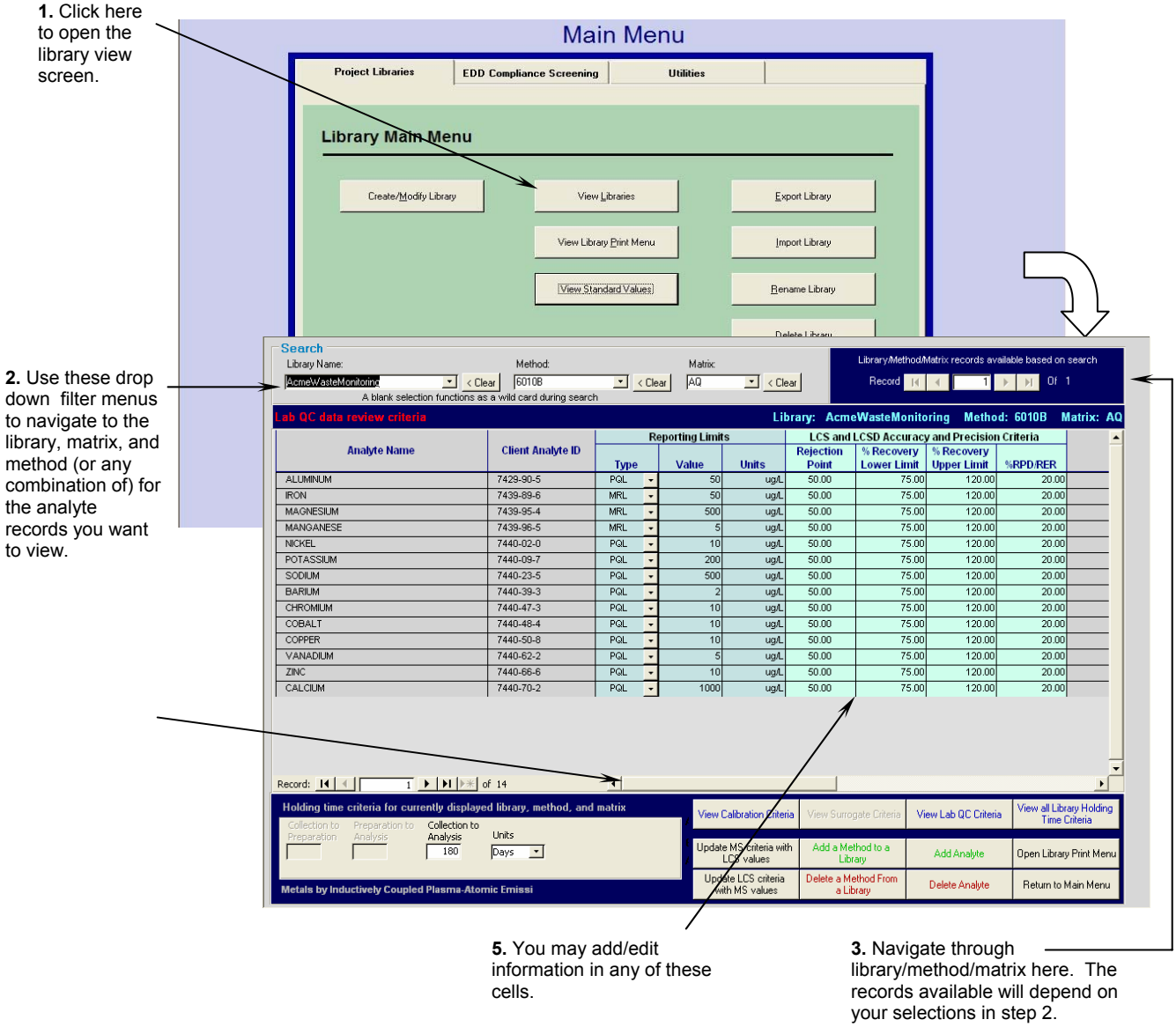

Final Selection of Source Library Records to Add to Destination Library
Copy From (Source Library)
Paste To (Destination Library)
Library
Master Library
LDC1
Sample Matrix
AQ
AQ
All information from the source library records checked below will be pasted into the destination library
Method
Matrix
Client Analyte ID
Analyte Name
Units
Check to include in new library
110.1 AQ COLOR COLOR ADMI
110.2 AQ COLOR COLOR ADMI
110.3 AQ COLOR COLOR ug/L
120.1 AQ SC SPECIFIC CONDUCTANCE umho
130.1 AQ HARD HARDNESS (AS CACO3) mg/L
130.2 AQ HARD HARDNESS (AS CACO3) mg/L
140.1 AQ ODOR ODOR T.O.N.
150.1 AQ PH PH pH
150.2 AQ PH PH pH
160.1 AQ TDS TOTAL DISSOLVED SOLIDS mg/L
160.2 AQ SS SUSPENDED SOLIDS mg/L
160.3 AQ TSO TOTAL SOLIDS mg/L
160.4 AQ TVS TOTAL VOLATILE SOLIDS mg/L
160.5 AQ SETMAT SETTLEABLE MATTER mL/L/hr
170.1 AQ TEMP TEMPERATURE C
Select ALL on Screen
Reset ALL on Screen to NO
Reset ALL Selection to NO
Create Library Files
<< Previous
Return to Main Menu
Record: 1 of 2361
Step 6. Click here after selecting all desired records. This action will append all records checked as "Include in the new library", into the destination library.
Select ALL on Screen
Include all records on screen for copying into the destination library by clicking this button.*
Reset ALL on Screen to NO
Unselect all records on screen marked as "included" by clicking this button.*
Reset ALL Selection to NO
Unselect all records marked as "included" by clicking this button. This action affects all records, even records not included in filters.
Step 5
Click on boxes individually to select a record you want included in the destination library. Click on a checked box to unselect a record.

***Note:** Both the **Select ALL on Screen** and **Reset ALL on Screen to NO** buttons only affect records that can be viewed on screen, including those records accessible for viewing using the scroll bar. If a filter was employed, only the filtered records are affected. Records not included in the filter remain unaffected by these buttons.

2.4 VIEWING/MODIFYING PROJECT LIBRARY

From the Main Menu, click the **Project Libraries** tab, then click on the **View Libraries** button. This will take you to the library main viewing screen. This screen allows you to edit reporting limits, precision and accuracy, and method blank acceptance criteria. Other related QC screens can be viewed by clicking the buttons at the bottom of the screen. Use the drop down filter menus on the fields in the "Select one or more search parameters" at the top of the screen to view the analyte records you want. You can filter on any combination of library ID, sample matrix, and method. Use these screens to view and edit project library table records. Each screen is detailed in the following pages.

Figure 2-8

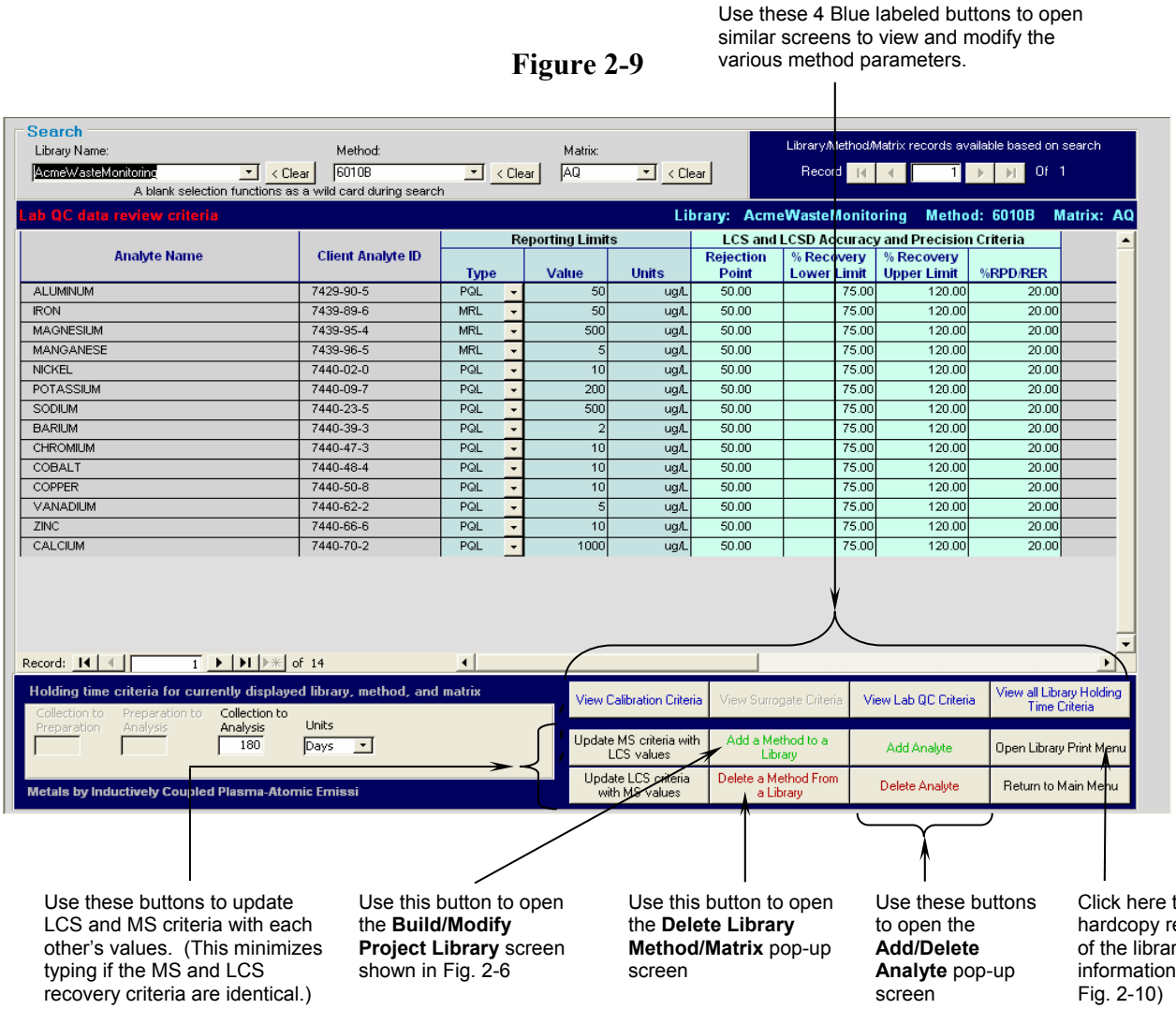

1. Click here to open the library view screen.
Main Menu
Project Libraries
EDD Compliance Screening
Utilities
Library Main Menu
Create/Modify Library
View Libraries
Export Library
View Library Print Menu
Import Library
View Standard Values
Rename Library
2. Use these drop down filter menus to navigate to the library, matrix, and method (or any combination of) for the analyte records you want to view.
Search
Library Name:
AcmeWasteMonitoring
Method:
6010B
Matrix:
AQ
A blank selection functions as a wild card during search
Library/Method/Matrix records available based on search
Record 1 Of 1
Lab QC data review criteria
Library: AcmeWasteMonitoring Method: 6010B Matrix: AQ
Analyte Name
Client Analyte ID
Reporting Limits
Type
Value
Units
LCS and LCSD Accuracy and Precision Criteria
Rejection Point
% Recovery Lower Limit
% Recovery Upper Limit
%RPD/RER
ALUMINUM 7429-90-5 PQL 50 ug/L 50.00 75.00 120.00 20.00
IRON 7439-89-6 MRL 50 ug/L 50.00 75.00 120.00 20.00
MAGNESIUM 7439-95-4 MRL 500 ug/L 50.00 75.00 120.00 20.00
MANGANESE 7439-96-5 MRL 5 ug/L 50.00 75.00 120.00 20.00
NICKEL 7440-02-0 PQL 10 ug/L 50.00 75.00 120.00 20.00
POTASSIUM 7440-09-7 PQL 200 ug/L 50.00 75.00 120.00 20.00
SODIUM 7440-23-5 PQL 500 ug/L 50.00 75.00 120.00 20.00
BARIUM 7440-39-3 PQL 2 ug/L 50.00 75.00 120.00 20.00
CHROMIUM 7440-47-3 PQL 10 ug/L 50.00 75.00 120.00 20.00
COBALT 7440-48-4 PQL 10 ug/L 50.00 75.00 120.00 20.00
COPPER 7440-50-8 PQL 10 ug/L 50.00 75.00 120.00 20.00
VANADIUM 7440-62-2 PQL 5 ug/L 50.00 75.00 120.00 20.00
ZINC 7440-66-6 PQL 10 ug/L 50.00 75.00 120.00 20.00
CALCIUM 7440-70-2 PQL 1000 ug/L 50.00 75.00 120.00 20.00
Record: 1 of 14
Holding time criteria for currently displayed library, method, and matrix
Collection to Preparation
Preparation to Analysis
Collection to Analysis
180
Units
Days
Metals by Inductively Coupled Plasma-Atomic Emissi
View Calibration Criteria
View Surrogate Criteria
View Lab QC Criteria
View all Library Holding Time Criteria
Update MS criteria with LCS values
Add a Method to a Library
Add Analyte
Open Library Print Menu
Update LCS criteria with MS values
Delete a Method From a Library
Delete Analyte
Return to Main Menu
5. You may add/edit information in any of these cells.
3. Navigate through library/method/matrix here. The records available will depend on your selections in step 2.

2.4.1 Other Functions of the Project Library Screen

From the main library viewing screen you will be able to access other screens and functions of the library. The library viewing screen first opens in the Lab QC Criteria view. To view and modify other method criteria (Surrogate, Holding Time, Calibration) click on the corresponding green labeled button. This screen also has the function of populating the MS/MSD recovery values with the LCS recovery values, or vice versa, by clicking the corresponding buttons.

You can also access other features of the program by clicking the colored buttons. Clicking the Add Method to a Library button will open up the Build/Modify Project Library screen that is discussed above in Fig. 2-6. Clicking the Delete Method from a Library button will open the Delete Library Method/Matrix pop-up screen. This screen is very similar to the Standard Values addition window, but the function is to delete the information from the database.

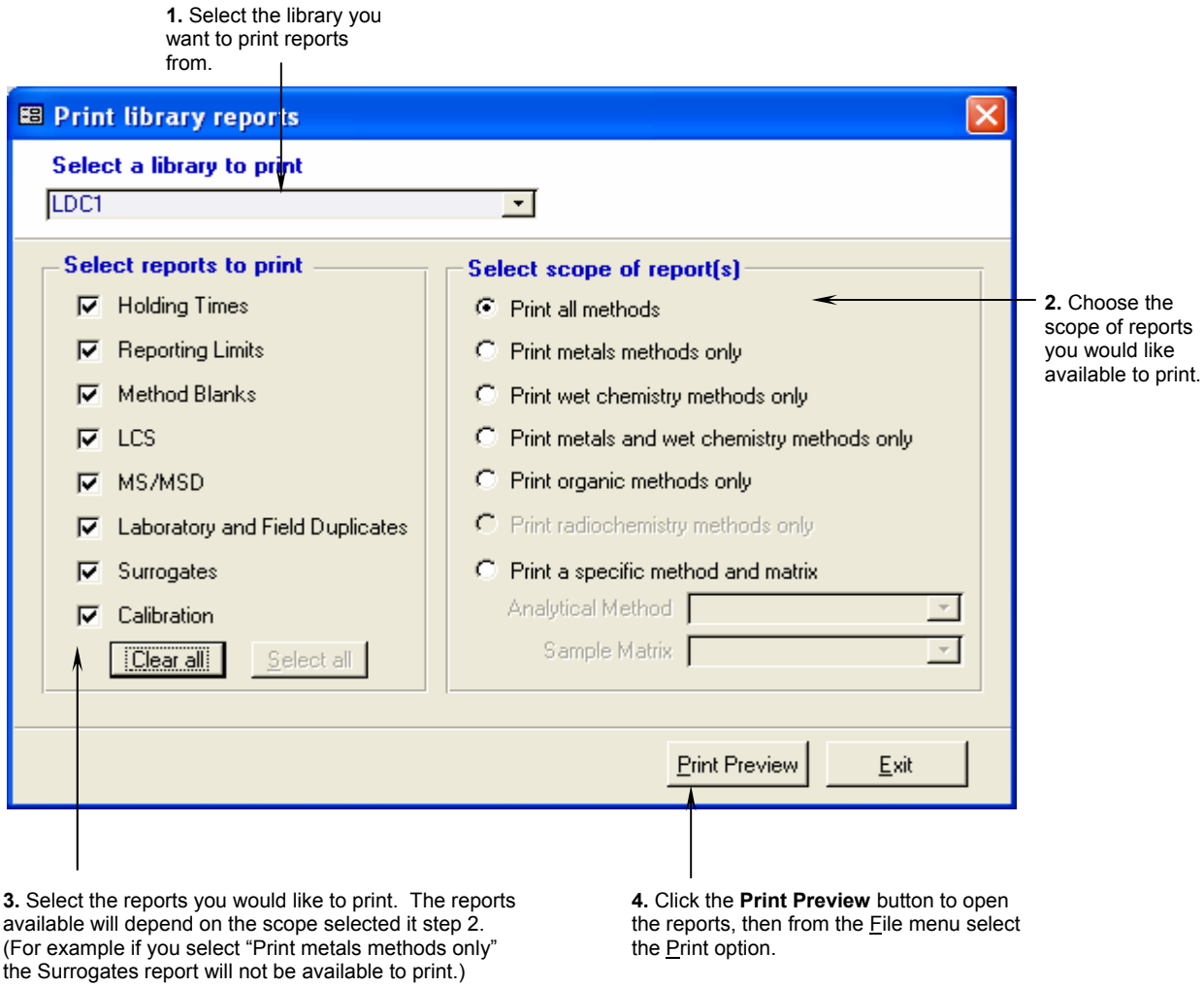
Figure 2-9


Use these 4 Blue labeled buttons to open similar screens to view and modify the various method parameters.
Search
Library Name:
AcmeWasteMonitoring
Method:
6010B
Matrix:
AQ
< Clear
A blank selection functions as a wild card during search
Library/Method/Matrix records available based on search
Record 1 Of 1
Lab QC data review criteria
Library: AcmeWasteMonitoring Method: 6010B Matrix: AQ
Analyte Name
Client Analyte ID
Reporting Limits
Type
Value
Units
LCS and LCSD Accuracy and Precision Criteria
Rejection Point
% Recovery Lower Limit
% Recovery Upper Limit
%RPD/RER
ALUMINUM 7429-90-5 PQL 50 ug/L 50.00 75.00 120.00 20.00
IRON 7439-89-6 MRL 50 ug/L 50.00 75.00 120.00 20.00
MAGNESIUM 7439-95-4 MRL 500 ug/L 50.00 75.00 120.00 20.00
MANGANESE 7439-96-5 MRL 5 ug/L 50.00 75.00 120.00 20.00
NICKEL 7440-02-0 PQL 10 ug/L 50.00 75.00 120.00 20.00
POTASSIUM 7440-09-7 PQL 200 ug/L 50.00 75.00 120.00 20.00
SODIUM 7440-23-5 PQL 500 ug/L 50.00 75.00 120.00 20.00
BARIUM 7440-39-3 PQL 2 ug/L 50.00 75.00 120.00 20.00
CHROMIUM 7440-47-3 PQL 10 ug/L 50.00 75.00 120.00 20.00
COBALT 7440-48-4 PQL 10 ug/L 50.00 75.00 120.00 20.00
COPPER 7440-50-8 PQL 10 ug/L 50.00 75.00 120.00 20.00
VANADIUM 7440-62-2 PQL 5 ug/L 50.00 75.00 120.00 20.00
ZINC 7440-66-6 PQL 10 ug/L 50.00 75.00 120.00 20.00
CALCIUM 7440-70-2 PQL 1000 ug/L 50.00 75.00 120.00 20.00
Record: 1 of 14
Holding time criteria for currently displayed library, method, and matrix
Collection to Preparation
Preparation to Analysis
Collection to Analysis
180
Units
Days
Metals by Inductively Coupled Plasma-Atomic Emissi
View Calibration Criteria
View Surrogate Criteria
View Lab QC Criteria
View all Library Holding Time Criteria
Update MS criteria with LCS values
Add a Method to a Library
Add Analyte
Open Library Print Menu
Update LCS criteria with MS values
Delete a Method From a Library
Delete Analyte
Return to Main Menu
Use these buttons to update LCS and MS criteria with each other's values. (This minimizes typing if the MS and LCS recovery criteria are identical.)
Use this button to open the Build/Modify Project Library screen shown in Fig. 2-6
Use this button to open the Delete Library Method/Matrix pop-up screen
Use these buttons to open the Add/Delete Analyte pop-up screen
Click here to print hardcopy reports of the library information (See Fig. 2-10)

2.5 PRINT LIBRARY REPORTS

From the Main Menu, click the **Project Libraries** tab, then click on the **Library Print Menu** button. This will take you to the **Print library reports** pop-up screen. From this screen you may select to print all of the information from a library or a subset of the information.

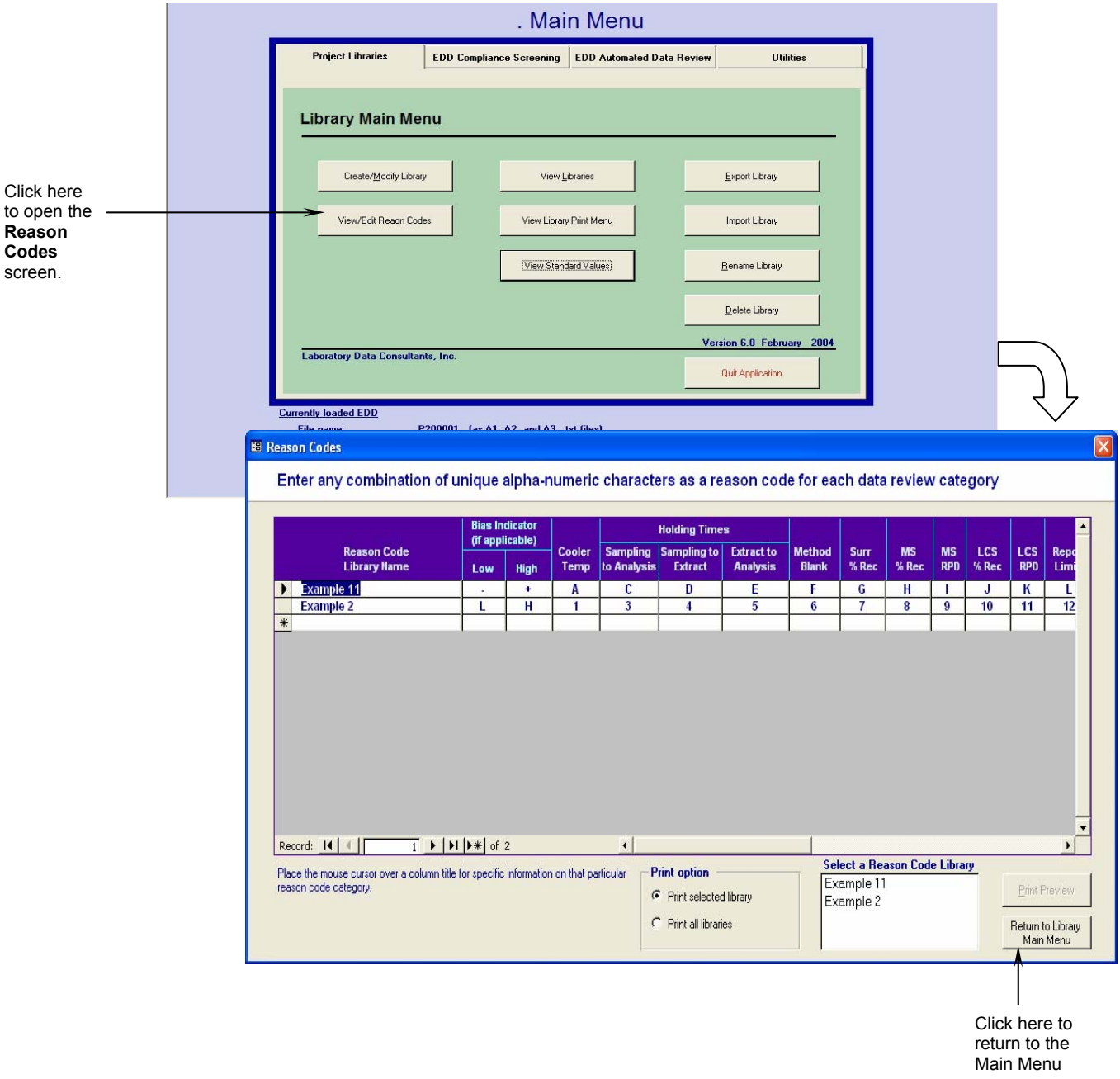
Figure 2-10


1. Select the library you want to print reports from.
Print library reports
Select a library to print
LDC1
Select reports to print
Holding Times
Reporting Limits
Method Blanks
LCS
MS/MSD
Laboratory and Field Duplicates
Surrogates
Calibration
Clear all
Select all
Select scope of report(s)
Print all methods
Print metals methods only
Print wet chemistry methods only
Print metals and wet chemistry methods only
Print organic methods only
Print radiochemistry methods only
Print a specific method and matrix
Analytical Method
Sample Matrix
Print Preview
Exit
2. Choose the scope of reports you would like available to print.
3. Select the reports you would like to print. The reports available will depend on the scope selected it step 2. (For example if you select "Print metals methods only" the Surrogates report will not be available to print.)
4. Click the Print Preview button to open the reports, then from the File menu select the Print option.

2.6 REASON CODES

The Reason Code library allows you to apply Reason Codes and Bias Indicators to the qualified data during the validation process. From the Main Menu click the **View Reason Codes** button. This will open the **Reason Codes** screen. From this screen you may modify values and/or create a new Reason Code library. Typically for a given client and/or project this will only be necessary once at the start up phase.

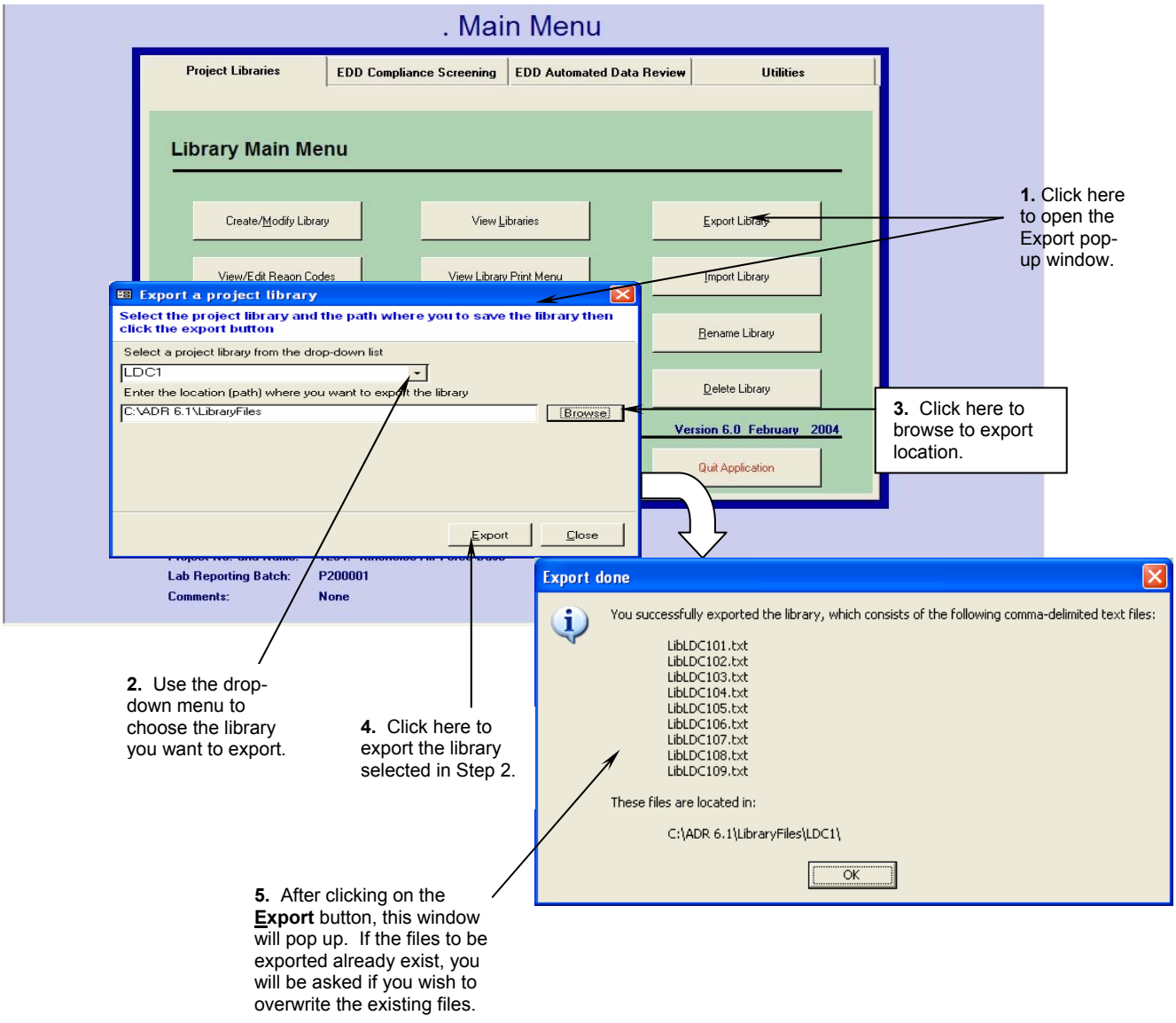
Figure 2-11



2.7 EXPORTING LIBRARY FILES

The **Export Library** function exports a project library as a text file so that it can be archived or uploaded into another user's application. When a project library is downloaded, nine related text files are created. The downloaded files are saved in a folder with the library name in the subdirectory called **LibraryFiles**, which is located in the 'parent' directory where the application resides. The naming convention for the files is to prefix the library name with "Lib" and give each file a consecutive suffix from 01-09 (ie: LibUser Manual Example Lib01.txt).

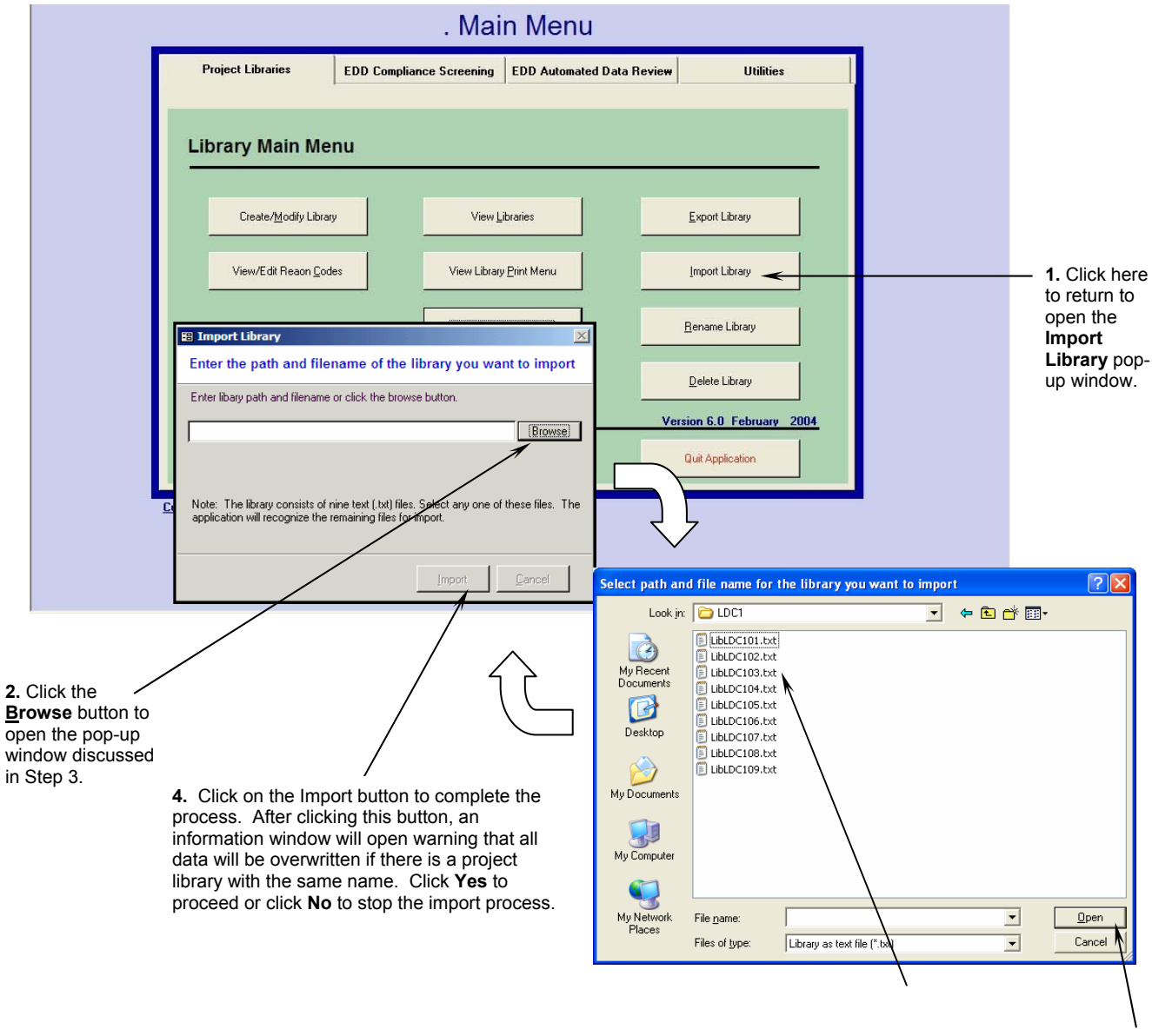
Figure 2-12


. Main Menu
Project Libraries
EDD Compliance Screening
EDD Automated Data Review
Utilities
Library Main Menu
Create/Modify Library
View Libraries
Export Library
View/Edit Reason Codes
View Library Print Menu
Import Library
Rename Library
Delete Library
Version 6.0 February 2004
Quit Application
Export a project library
Select the project library and the path where you to save the library then click the export button
Select a project library from the drop-down list
LDC1
Enter the location (path) where you want to export the library
C:\ADR 6.1\LibraryFiles
Browse
Export
Close
Lab Reporting Batch: P200001
Comments: None
Export done
You successfully exported the library, which consists of the following comma-delimited text files:
LibLDC101.txt
LibLDC102.txt
LibLDC103.txt
LibLDC104.txt
LibLDC105.txt
LibLDC106.txt
LibLDC107.txt
LibLDC108.txt
LibLDC109.txt
These files are located in:
C:\ADR 6.1\LibraryFiles\LDC1\
OK
1. Click here to open the Export pop-up window.
2. Use the drop-down menu to choose the library you want to export.
3. Click here to browse to export location.
4. Click here to export the library selected in Step 2.
5. After clicking on the Export button, this window will pop up. If the files to be exported already exist, you will be asked if you wish to overwrite the existing files.

2.8 IMPORTING LIBRARY FILES

The **Import Library** function imports an previously exported project library. Project libraries are imported through the use of the **Import Library** function explained in Figure 2-13.

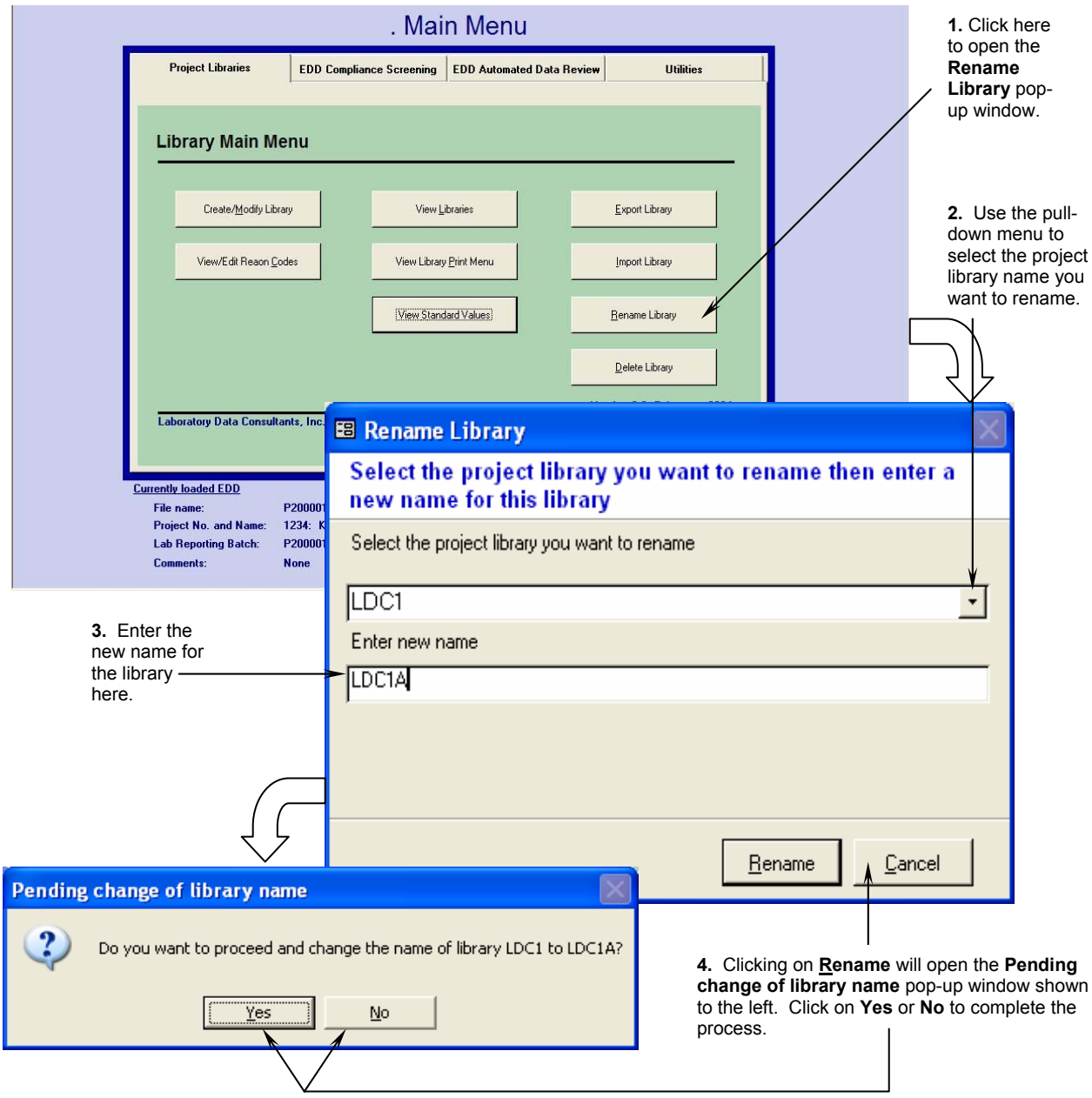
Figure 2-13


. Main Menu
Project Libraries
EDD Compliance Screening
EDD Automated Data Review
Utilities
Library Main Menu
Create/Modify Library
View Libraries
Export Library
View/Edit Reaon Codes
View Library Print Menu
Import Library
Rename Library
Delete Library
Version 6.0 February 2004
Quit Application
Import Library
Enter the path and filename of the library you want to import
Enter libary path and filename or click the browse button.
Browse
Note: The library consists of nine text (.txt) files. Select any one of these files. The application will recognize the remaining files for import.
Import
Cancel
Select path and file name for the library you want to import
Look in:
LDC1
LibLDC101.txt
LibLDC102.txt
LibLDC103.txt
LibLDC104.txt
LibLDC105.txt
LibLDC106.txt
LibLDC107.txt
LibLDC108.txt
LibLDC109.txt
My Recent Documents
Desktop
My Documents
My Computer
My Network Places
File name:
Files of type:
Library as text file (*.txt)
Open
Cancel
1. Click here to return to open the Import Library pop-up window.
2. Click the Browse button to open the pop-up window discussed in Step 3.
4. Click on the Import button to complete the process. After clicking this button, an information window will open warning that all data will be overwritten if there is a project library with the same name. Click Yes to proceed or click No to stop the import process.

2.9 RENAMING PROJECT LIBRARIES

The **Rename Library** function changes the name of a project library. This is useful if you want to keep the original state of a current library, but also edit it for a new project. First export a copy (see Fig. 2-12) of the library you want to use, then continue with this procedure. **(CAUTION: to re-examine a previously processed EDD you must have a copy of the library used to process that EDD).**

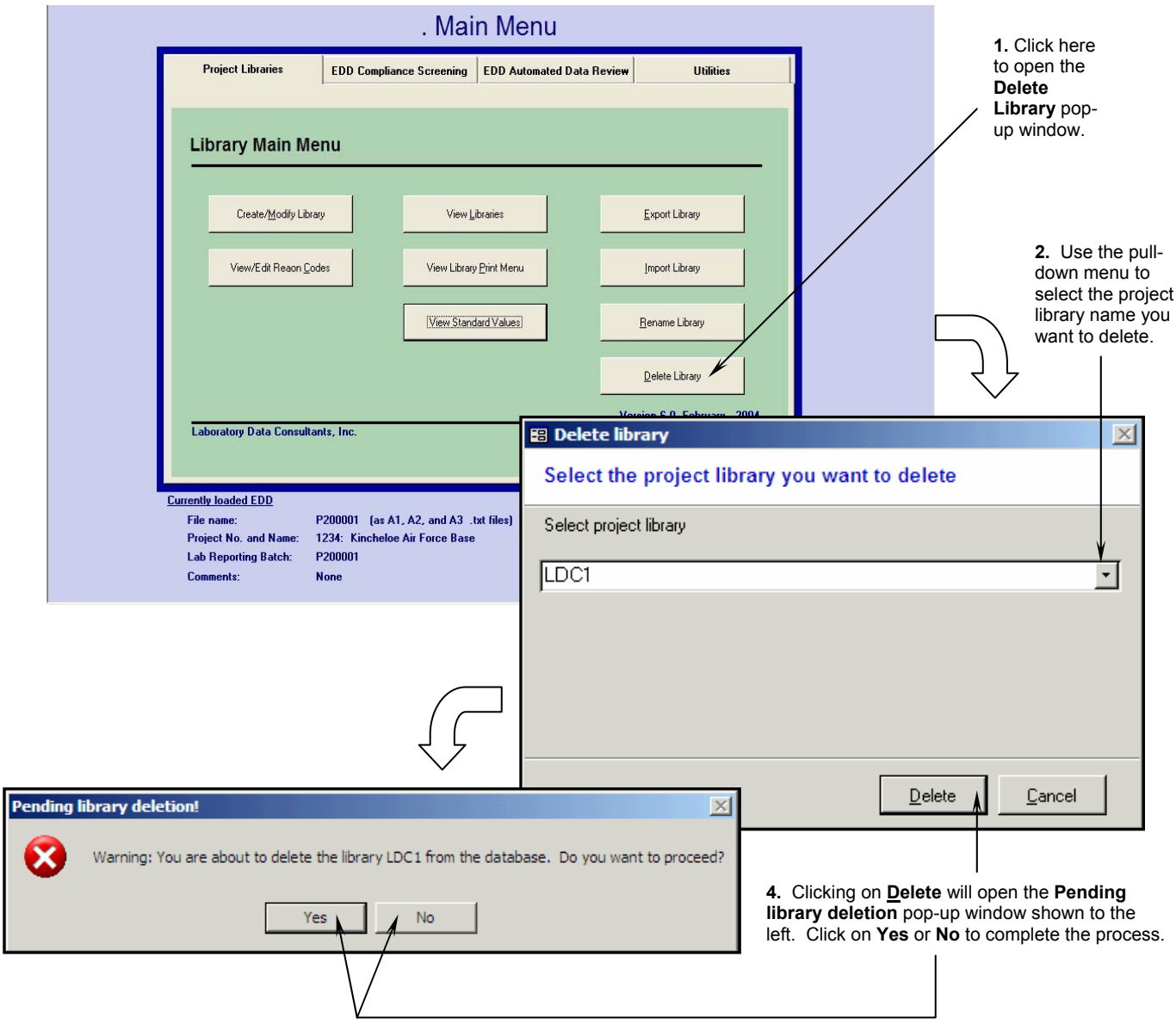
Figure 2-14


. Main Menu
Project Libraries
EDD Compliance Screening
EDD Automated Data Review
Utilities
Library Main Menu
Create/Modify Library
View Libraries
Export Library
View/Edit Reaon Codes
View Library Print Menu
Import Library
View Standard Values
Rename Library
Delete Library
Laboratory Data Consultants, Inc.
Currently loaded EDD
File name:
Project No. and Name:
Lab Reporting Batch:
Comments:
None
1. Click here to open the Rename Library pop-up window.
2. Use the pull-down menu to select the project library name you want to rename.
Rename Library
Select the project library you want to rename then enter a new name for this library
Select the project library you want to rename
LDC1
Enter new name
LDC1A
3. Enter the new name for the library here.
Rename
Cancel
Pending change of library name
Do you want to proceed and change the name of library LDC1 to LDC1A?
Yes
No
4. Clicking on Rename will open the Pending change of library name pop-up window shown to the left. Click on Yes or No to complete the process.

2.10 DELETING PROJECT LIBRARIES

The **Delete Library** function deletes a specific project library from the database tables. Previously exported libraries are not affected by this action. **(CAUTION: it is recommended that you first export (see Fig. 2-12) and archive a copy of the library before deleting it from the database.)**

Figure 2-15


. Main Menu
Project Libraries
EDD Compliance Screening
EDD Automated Data Review
Utilities
Library Main Menu
Create/Modify Library
View Libraries
Export Library
View/Edit Reaon Codes
View Library Print Menu
Import Library
View Standard Values
Rename Library
Delete Library
Laboratory Data Consultants, Inc.
Currently loaded EDD
File name: P200001 (as A1, A2, and A3 .txt files)
Project No. and Name: 1234: Kincheloe Air Force Base
Lab Reporting Batch: P200001
Comments: None
1. Click here to open the Delete Library pop-up window.
2. Use the pull-down menu to select the project library name you want to delete.
Delete library
Select the project library you want to delete
Select project library
LDC1
Delete
Cancel
Pending library deletion!
Warning: You are about to delete the library LDC1 from the database. Do you want to proceed?
Yes
No
4. Clicking on Delete will open the Pending library deletion pop-up window shown to the left. Click on Yes or No to complete the process.

3.0
CCS Module

3.1 EDD ERROR CHECK MENU

EDD Error Check

EDD Error Check performs a comprehensive error check of the EDD using the project library as the reference. An EDD is first uploaded into the application from a source such as a diskette, hard drive or e-mail file. The EDD Error Check is then initiated by choosing a reference project library and then executing the Run EDD Error Check command. The following checks are performed on the EDD file:

- Required fields, standard values, field length, and date/time format
- Client Analyte ID, analyte names, units, and reporting limits for each method and matrix reported in the EDD match the same information set up for each method and matrix in the project library
- Completeness (missing or extra compounds)
- Spike and surrogate (if applicable) compounds reported in QC sample records match those specified for each method and matrix set up in the project library
- Method blank and LCS records exist for each Preparation Batch
- Matrix spike/spike duplicate or Sample Duplicate records (if applicable) exist for each Method Batch
- Problems with Preparation Batch and Method Batch ID and sample association
- Sample results qualified by the laboratory as non-detect match the reporting limit, and reporting limits match the project library reporting limits (corrected for dilution and percent moisture, if applicable)
- Duplicate records
- Consistent lab qualifiers

EDD Error Log/Report

EDD Error Check creates an error log that summarizes all errors found in the EDD. The error log can be viewed on screen or printed as a report. When viewed on screen, the user may perform searches or apply filters to facilitate assessment and correction. When viewed as a report there will be a summary page of errors. Additionally the report groups errors into categories (i.e. missing required fields and non-valid values). The error log and error report provide the following information:

- Assigns each error a type code (a code that gives a general description of the error). Additionally, the report also summarizes the number of each type of error and the total number of errors.

- Describes each error individually and, where applicable, indicates the incorrect or missing entry.

- Lists the field name and record number where each error occurs, if applicable.

EDD Error Correction

The error log allows easy view of EDD errors when a record number is listed for a particular error. Click on the record number and a window opens below showing a view of the EDD with the focus on the record number where the error occurred. While EDD errors can be corrected within the application, it is highly recommended instead that errors be corrected within the Laboratory LIMS, a new EDD created and imported into the Error check software, and the error check run again. EDDs must match hardcopy reports. If an EDD is corrected with the software, the EDD may not match the hardcopy report.

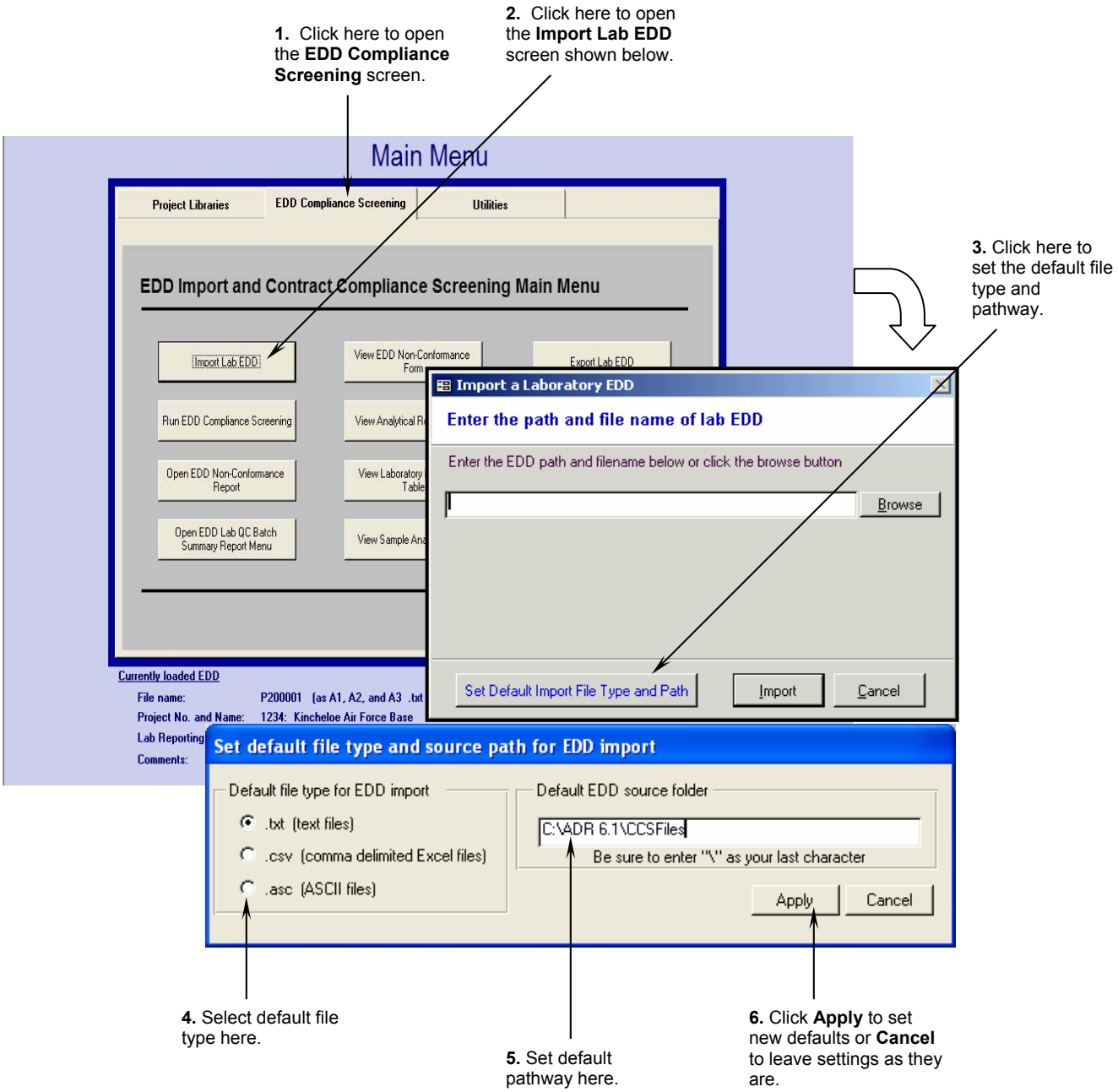
Saving Corrected EDDs

The corrected EDD is exported as a comma delimited ASCII test file in a sub-directory of the user's choice. The user is prompted to name the file. The default file name is the Lab Reporting Batch ID. This EDD set is the one to be sent by the Laboratory to the client.

3.2 SETTING THE DEFAULT IMPORT FILE TYPE AND PATH

From the Main Menu click on the **EDD Error Check** tab, then click on the **Import Lab EDD** button to open the **Import Lab EDD** screen. Click on the Set **Default Import file Type and Path** button. This will open the **Default type and source path** pop-up window. This screen will allow you to set the default file type for the software (text files, Excel comma delimited files, or ASCII files). It also allows you to specify what directory you would like to initiate EDD searches from.

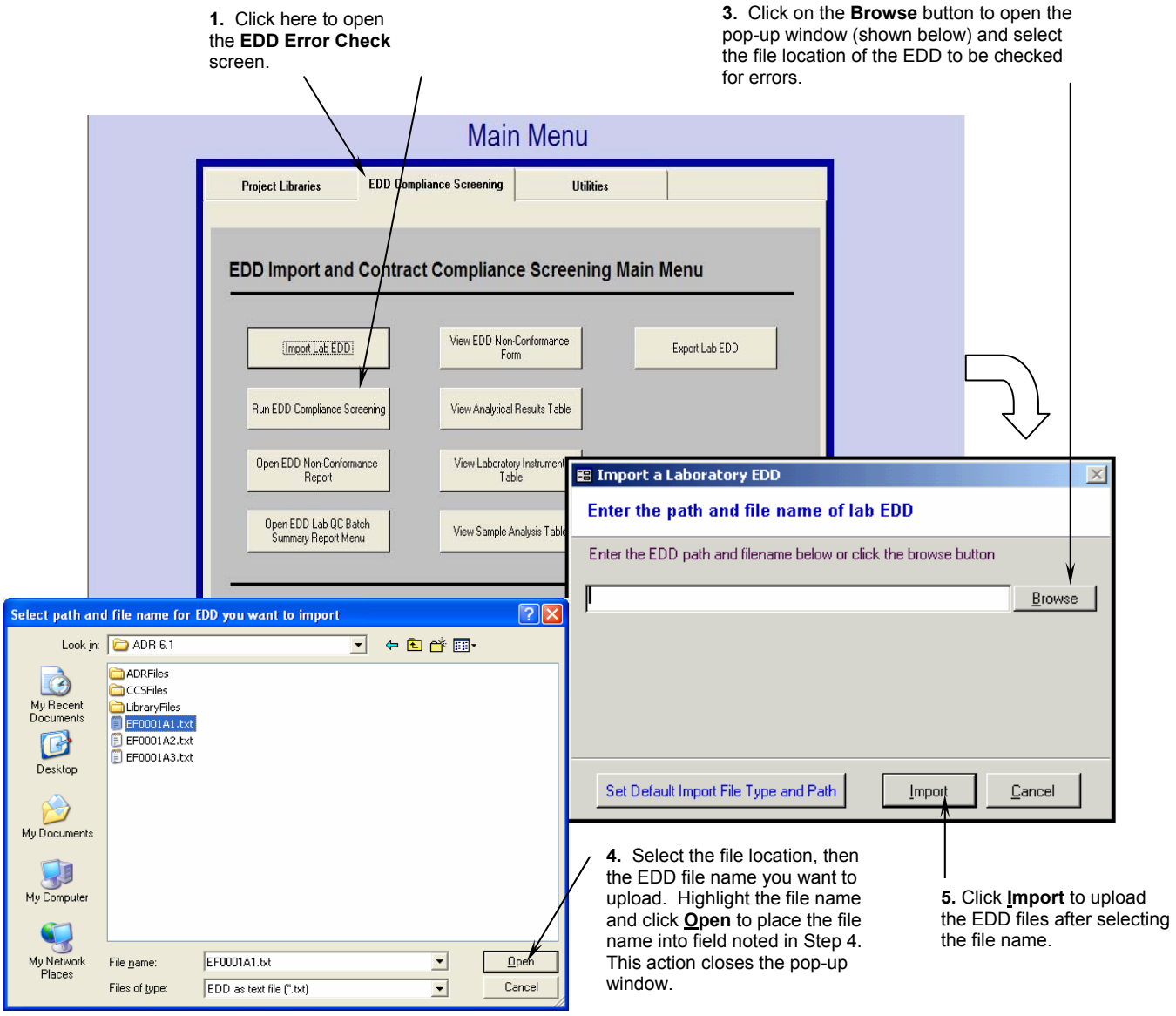
Figure 3-1


1. Click here to open the EDD Compliance Screening screen.
2. Click here to open the Import Lab EDD screen shown below.
3. Click here to set the default file type and pathway.
Main Menu
Project Libraries
EDD Compliance Screening
Utilities
EDD Import and Contract Compliance Screening Main Menu
Import Lab EDD
Run EDD Compliance Screening
Open EDD Non-Conformance Report
Open EDD Lab QC Batch Summary Report Menu
Import a Laboratory EDD
Enter the path and file name of lab EDD
Enter the EDD path and filename below or click the browse button
Browse
Set Default Import File Type and Path
Import
Cancel
Currently loaded EDD
File name: P200001 (as A1, A2, and A3 .txt
Project No. and Name: 1234: Kincheloe Air Force Base
Lab Reporting
Comments:
Set default file type and source path for EDD import
Default file type for EDD import
.txt (text files)
.csv (comma delimited Excel files)
.asc (ASCII files)
Default EDD source folder
C:\ADR 6.1\CCSFiles
Be sure to enter "\" as your last character
Apply
Cancel
4. Select default file type here.
5. Set default pathway here.
6. Click Apply to set new defaults or Cancel to leave settings as they are.

3.3 IMPORT EDD

From the Main Menu click on the **EDD Error Check** tab then click on the **Import Lab EDD** button to open the **Import Lab EDD** screen. Click on the Browse box (this will open a windows explorer pop-up window) and navigate to the where the EDD to be checked is stored. Highlight the EDD and click the **Open** button. Click on the **Import** button to complete the import process. **(NOTE: The EDD will consist of three files, the A1, A2, and A3. You only need to select one and the software will recognize and import the rest.)**

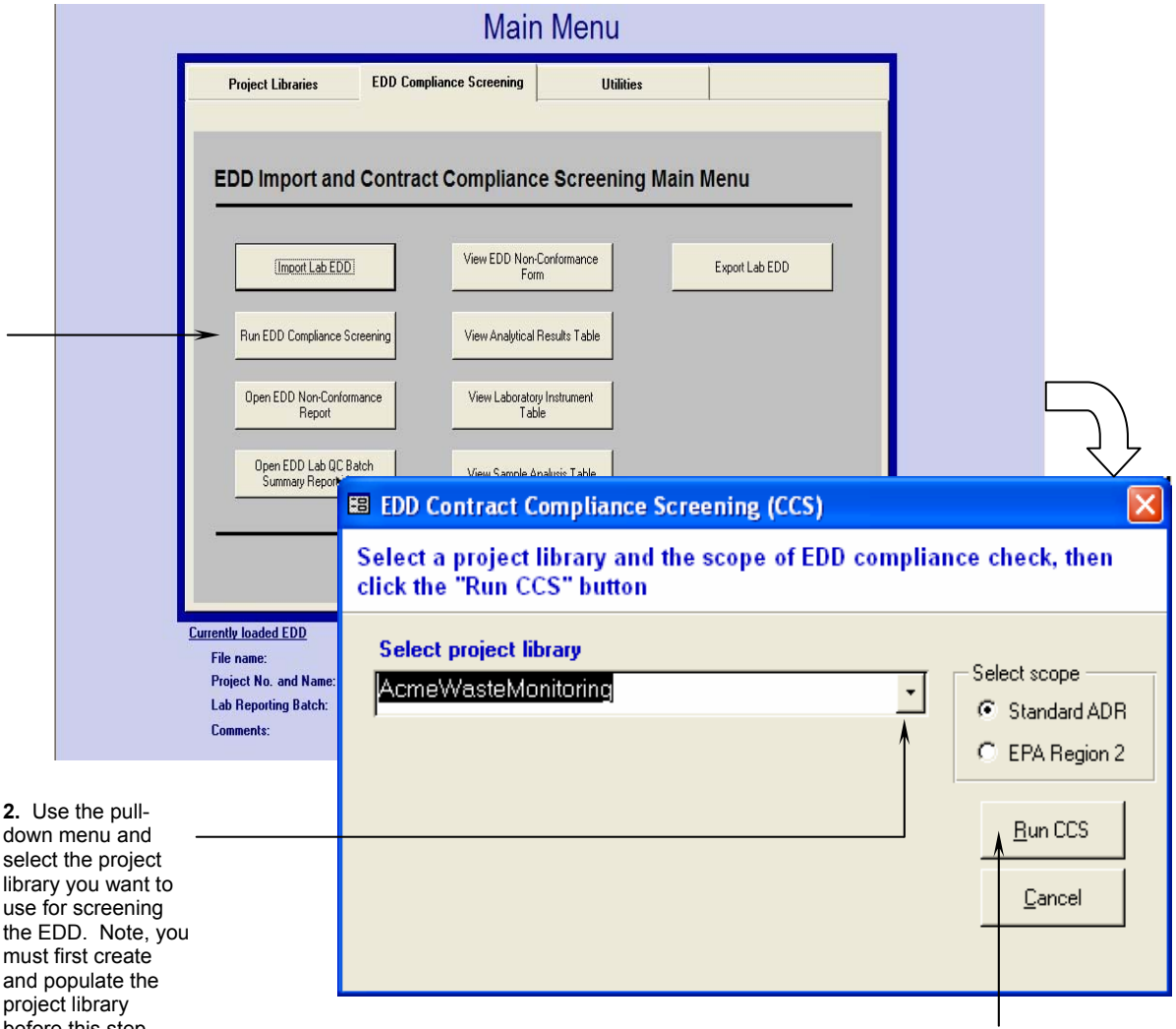
Figure 3-2


1. Click here to open the EDD Error Check screen.
3. Click on the Browse button to open the pop-up window (shown below) and select the file location of the EDD to be checked for errors.
Main Menu
Project Libraries
EDD Compliance Screening
Utilities
EDD Import and Contract Compliance Screening Main Menu
Import Lab EDD
View EDD Non-Conformance Form
Export Lab EDD
Run EDD Compliance Screening
View Analytical Results Table
Open EDD Non-Conformance Report
View Laboratory Instrument Table
Open EDD Lab QC Batch Summary Report Menu
View Sample Analysis Table
Import a Laboratory EDD
Enter the path and file name of lab EDD
Enter the EDD path and filename below or click the browse button
Browse
Set Default Import File Type and Path
Import
Cancel
Select path and file name for EDD you want to import
Look in:
ADR 6.1
ADRFiles
CCSFiles
LibraryFiles
EF0001A1.txt
EF0001A2.txt
EF0001A3.txt
My Recent Documents
Desktop
My Documents
My Computer
My Network Places
File name:
EF0001A1.txt
Files of type:
EDD as text file (*.txt)
Open
Cancel
4. Select the file location, then the EDD file name you want to upload. Highlight the file name and click Open to place the file name into field noted in Step 4. This action closes the pop-up window.
5. Click Import to upload the EDD files after selecting the file name.

3.4 RUN ERROR CHECK MODULE

After importing the EDD begin the **EDD Error Check** by clicking on the **Run EDD Error Check** button. A screen will open instructing you to select the project specific library (the project library must be created and populated before running error check, see Section 2 of this manual). Use the pull-down menu to select the project library, be sure to select the correct library otherwise a large number of errors may be generated. After entering the project library ID, click the **Run** button to start the error check process. The error check takes about 30 seconds to two minutes depending on the size of the EDD files, computer memory, and the processor speed. When the error check has finished, an information window pops open with a message stating "Processing Lab EDD is now complete". Click OK in this window to return to the EDD Error Check Main Menu and review the error report.

Figure 3-3



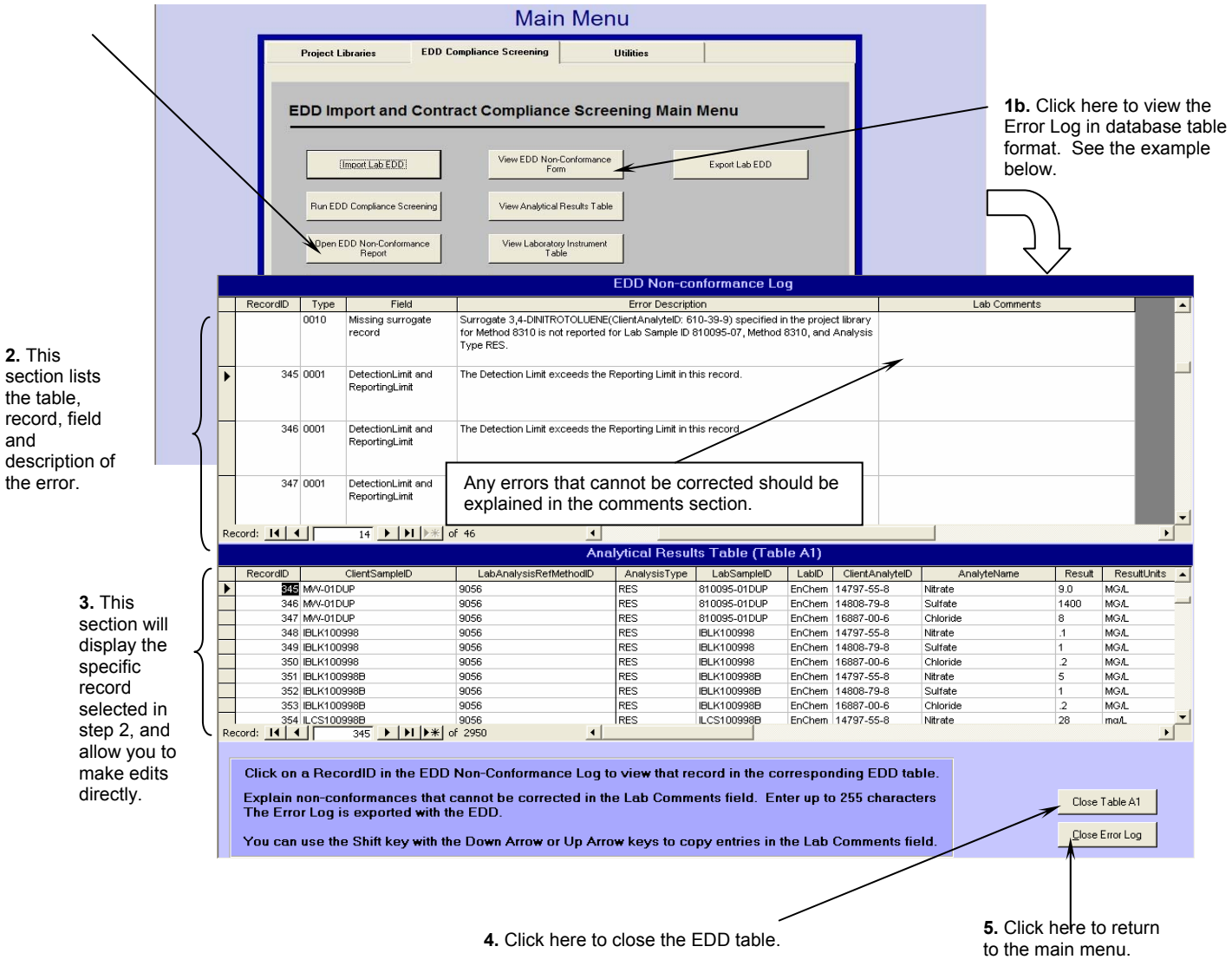
2. Use the pull-down menu and select the project library you want to use for screening the EDD. Note, you must first create and populate the project library before this step (see Section 2 of this manual).

3. Click here to begin the error check process after selecting the Library in Step 2. When the EDD screening is finished, a message window will open stating that the error check has finished. Click **OK** in this window to return to the main menu and view the error log.

3.5 EDD ERROR LOG

After the error check has finished, the EDD Error Log can be viewed in two different formats using either the **View EDD Error Log** or **Print Preview EDD Error Report** buttons. The **View EDD Error Log** button displays the EDD Error Log in table format. Figure 3-4 shows an example of the EDD Error Log in table format. You may perform filter, find, and sort operations in the EDD Error Log to facilitate error evaluation and correction. The **Print Preview EDD Error Report** button displays the EDD Error Log in report format. Both views display the same information but the report format includes a summary page that lists the count for each type of error, a description of the error type and the total number of errors. Figure 3-5 shows an example of the EDD Error Log in report format. Below is an example of the log in table format.

Figure 3-4

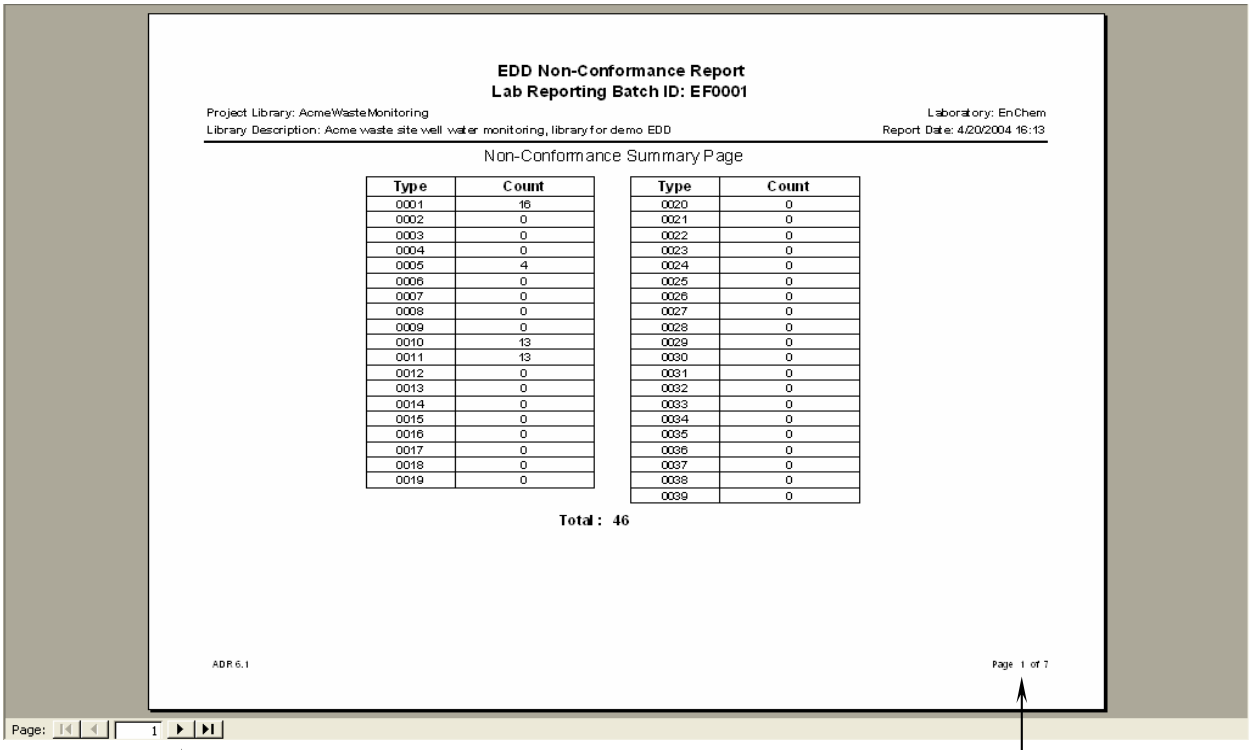

Main Menu
Project Libraries
EDD Compliance Screening
Utilities
EDD Import and Contract Compliance Screening Main Menu
Import Lab EDD
View EDD Non-Conformance Form
Export Lab EDD
Run EDD Compliance Screening
View Analytical Results Table
Open EDD Non-Conformance Report
View Laboratory Instrument Table
1b. Click here to view the Error Log in database table format. See the example below.
EDD Non-conformance Log
RecordID
Type
Field
Error Description
Lab Comments
0010
Missing surrogate record
Surrogate 3,4-DINITROTOLUENE(ClientAnalyteID: 610-39-9) specified in the project library for Method 8310 is not reported for Lab Sample ID 810095-07, Method 8310, and Analysis Type RES.
345 0001 DetectionLimit and ReportingLimit The Detection Limit exceeds the Reporting Limit in this record.
346 0001 DetectionLimit and ReportingLimit The Detection Limit exceeds the Reporting Limit in this record.
347 0001 DetectionLimit and ReportingLimit
Any errors that cannot be corrected should be explained in the comments section.
Record: 14 of 46
2. This section lists the table, record, field and description of the error.
Analytical Results Table (Table A1)
RecordID
ClientSampleID
LabAnalysisRefMethodID
AnalysisType
LabSampleID
LabID
ClientAnalyteID
AnalyteName
Result
ResultUnits
345 MW-01DUP 9056 RES 810095-01DUP EnChem 14797-55-8 Nitrate 9.0 MG/L
346 MW-01DUP 9056 RES 810095-01DUP EnChem 14808-79-8 Sulfate 1400 MG/L
347 MW-01DUP 9056 RES 810095-01DUP EnChem 16887-00-6 Chloride 8 MG/L
348 IBLK100998 9056 RES IBLK100998 EnChem 14797-55-8 Nitrate .1 MG/L
349 IBLK100998 9056 RES IBLK100998 EnChem 14808-79-8 Sulfate 1 MG/L
350 IBLK100998 9056 RES IBLK100998 EnChem 16887-00-6 Chloride .2 MG/L
351 IBLK100998B 9056 RES IBLK100998B EnChem 14797-55-8 Nitrate 5 MG/L
352 IBLK100998B 9056 RES IBLK100998B EnChem 14808-79-8 Sulfate 1 MG/L
353 IBLK100998B 9056 RES IBLK100998B EnChem 16887-00-6 Chloride .2 MG/L
354 ILCS100998B 9056 RES ILCS100998B EnChem 14797-55-8 Nitrate 28 mg/L
Record: 345 of 2950
3. This section will display the specific record selected in step 2, and allow you to make edits directly.
Click on a RecordID in the EDD Non-Conformance Log to view that record in the corresponding EDD table.
Explain non-conformances that cannot be corrected in the Lab Comments field. Enter up to 255 characters The Error Log is exported with the EDD.
You can use the Shift key with the Down Arrow or Up Arrow keys to copy entries in the Lab Comments field.
Close Table A1
Close Error Log
4. Click here to close the EDD table.
5. Click here to return to the main menu.

3.6 EDD ERROR REPORT

3.6.1 Summary Page

The EDD Error Report presents the same information as viewed in the EDD Error Log table format. View the EDD Error Report by clicking the **Print Preview EDD Error Report** button as described in Figure 3-9. On screen the EDD Error Report is displayed in report format. You cannot perform filter, find, or sort operations in the report view. Page one of the EDD Error Report summarizes the number of each type of error found and the total number of errors as illustrated in Figure 3-10. Errors are listed by both Error Type and Description. Use the counter on the lower left of the screen to advance through the pages of the error report. Use the printer icon on the Tool Bar to print the entire report. To print a specific page or range of pages use the File Pull-down on the Menu Bar to access the print options (Note that the Tool Bar is not shown in Figure 3-10). When looking at the report it is helpful to look at the total at the bottom middle. If there are many errors it may be easier to view the Error Log, filter on the individual error codes, and look for systematic errors.

Figure 3-5
An example of the first page of the EDD Error Report



Type	Count
0001	16
0002	0
0003	0
0004	0
0005	4
0006	0
0007	0
0008	0
0009	0
0010	13
0011	13
0012	0
0013	0
0014	0
0015	0
0016	0
0017	0
0018	0
0019	0

Type	Count
0020	0
0021	0
0022	0
0023	0
0024	0
0025	0
0026	0
0027	0
0028	0
0029	0
0030	0
0031	0
0032	0
0033	0
0034	0
0035	0
0036	0
0037	0
0038	0
0039	0

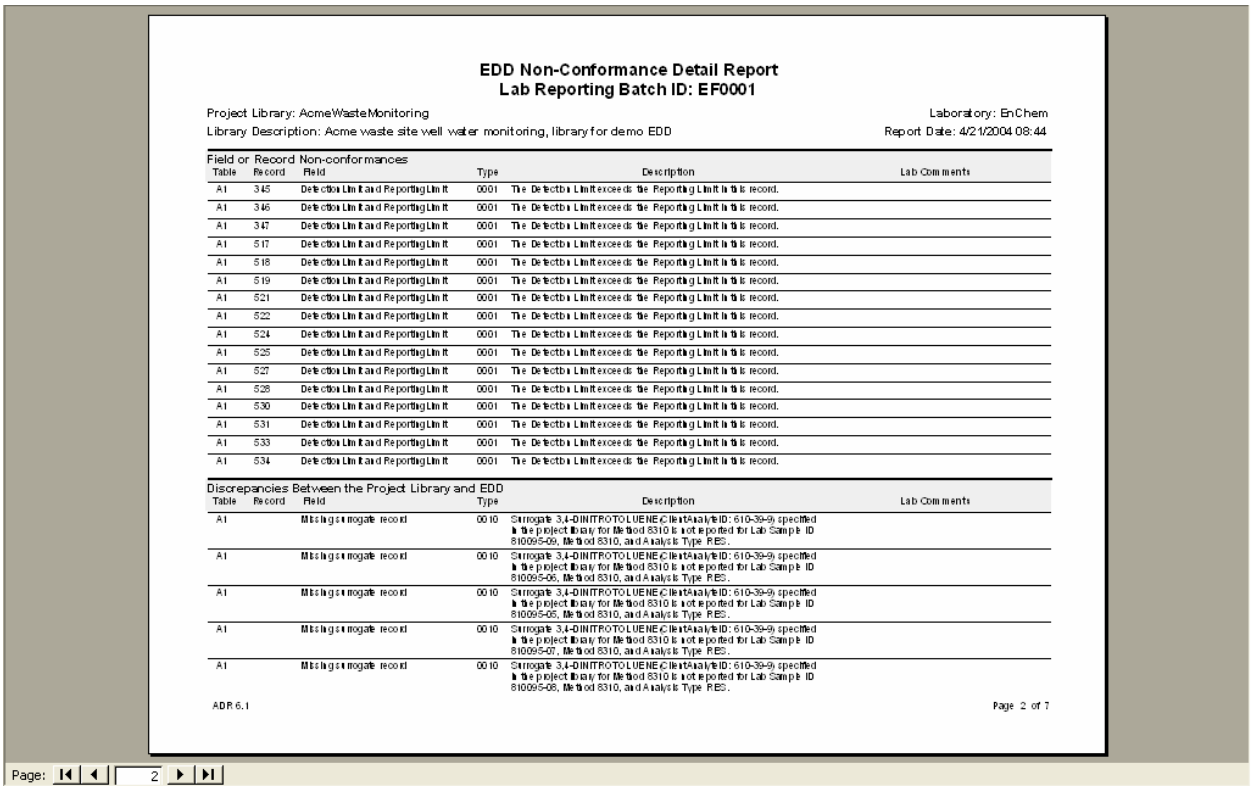
Advance through the pages of the Error log report here

The number of pages in the EDD Error log is indicated here. Always check the number of pages before printing. If error checking generates a lengthy Error report, you probably want to review on screen rather than print.

3.6.2 EDD ERROR Report -- Detail Page(s)

Subsequent pages in the EDD Error Report contain the same information displayed in the database view of the error log. Figure 3-10 shows an example of a page from the EDD Error Report. The header on each page indicates the Lab Reporting Batch, the report date, the reference project library used during the Error Check, and the laboratory identification. The detail section of the report lists a record number and field name where each error occurs (if applicable), the type number for that error (see Figure 3-11), and a description of the error.

Figure 3-6
An example of the Detail in the EDD Error Report



EDD Non-Conformance Detail Report
Lab Reporting Batch ID: EF0001

Project Library: AcmeWasteMonitoring — Laboratory: EnChem
Library Description: Acme waste site well water monitoring, library for demo EDD — Report Date: 4/21/2004 08:44

Field or Record Non-conformances

Table	Record	Field	Type	Description	Lab Comments
A1	345	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	346	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	347	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	517	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	518	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	519	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	521	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	522	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	524	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	525	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	527	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	528	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	530	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	531	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	533	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	
A1	534	Detection Limit and Reporting Limit	0001	The Detection Limit exceeds the Reporting Limit in this record.	

Discrepancies Between the Project Library and EDD

Table	Record	Field	Type	Description	Lab Comments
A1		Missing surrogate record	0010	Surrogate 3,4-DINITROTOLUENE/ClientAnalyteID: 610-39-9) specified in the project library for Method 8310 is not reported for Lab Sample ID 810095-09, Method 8310, and Analysis Type RES.	
A1		Missing surrogate record	0010	Surrogate 3,4-DINITROTOLUENE/ClientAnalyteID: 610-39-9) specified in the project library for Method 8310 is not reported for Lab Sample ID 810095-06, Method 8310, and Analysis Type RES.	
A1		Missing surrogate record	0010	Surrogate 3,4-DINITROTOLUENE/ClientAnalyteID: 610-39-9) specified in the project library for Method 8310 is not reported for Lab Sample ID 810095-05, Method 8310, and Analysis Type RES.	
A1		Missing surrogate record	0010	Surrogate 3,4-DINITROTOLUENE/ClientAnalyteID: 610-39-9) specified in the project library for Method 8310 is not reported for Lab Sample ID 810095-07, Method 8310, and Analysis Type RES.	
A1		Missing surrogate record	0010	Surrogate 3,4-DINITROTOLUENE/ClientAnalyteID: 610-39-9) specified in the project library for Method 8310 is not reported for Lab Sample ID 810095-08, Method 8310, and Analysis Type RES.	

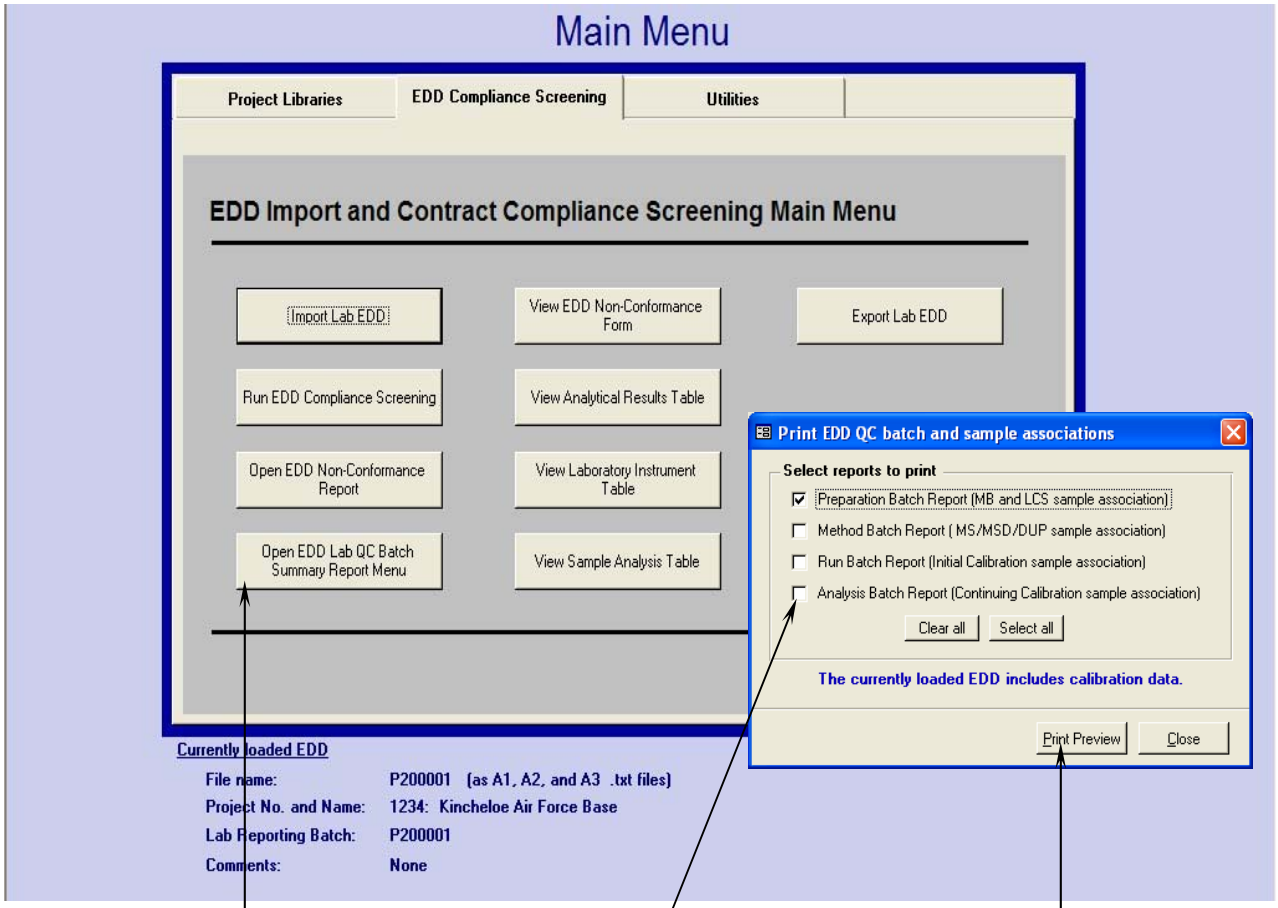
ADR 6.1 — Page 2 of 7

Page: 2

3.7 Printing QC Batch Summary Reports

This feature of the software allows you to print various summary reports of the different QC batches and their associated samples. Use this feature of the software to check for correct associations of QC and calibration samples to the client samples in the EDD. The example in Figure 3-11 is a Preparation Batch summary for EPA method 300.0 and shows the Method Blank and Laboratory Control Sample associated with a batch of samples.

Figure 3-10


Main Menu
Project Libraries
EDD Compliance Screening
Utilities
EDD Import and Contract Compliance Screening Main Menu
Import Lab EDD
View EDD Non-Conformance Form
Export Lab EDD
Run EDD Compliance Screening
View Analytical Results Table
Open EDD Non-Conformance Report
View Laboratory Instrument Table
Open EDD Lab QC Batch Summary Report Menu
View Sample Analysis Table
Print EDD QC batch and sample associations
Select reports to print
Preparation Batch Report (MB and LCS sample association)
Method Batch Report (MS/MSD/DUP sample association)
Run Batch Report (Initial Calibration sample association)
Analysis Batch Report (Continuing Calibration sample association)
Clear all
Select all
The currently loaded EDD includes calibration data.
Print Preview
Close
Currently loaded EDD
File name: P200001 (as A1, A2, and A3 .txt files)
Project No. and Name: 1234: Kincheloe Air Force Base
Lab Reporting Batch: P200001
Comments: None

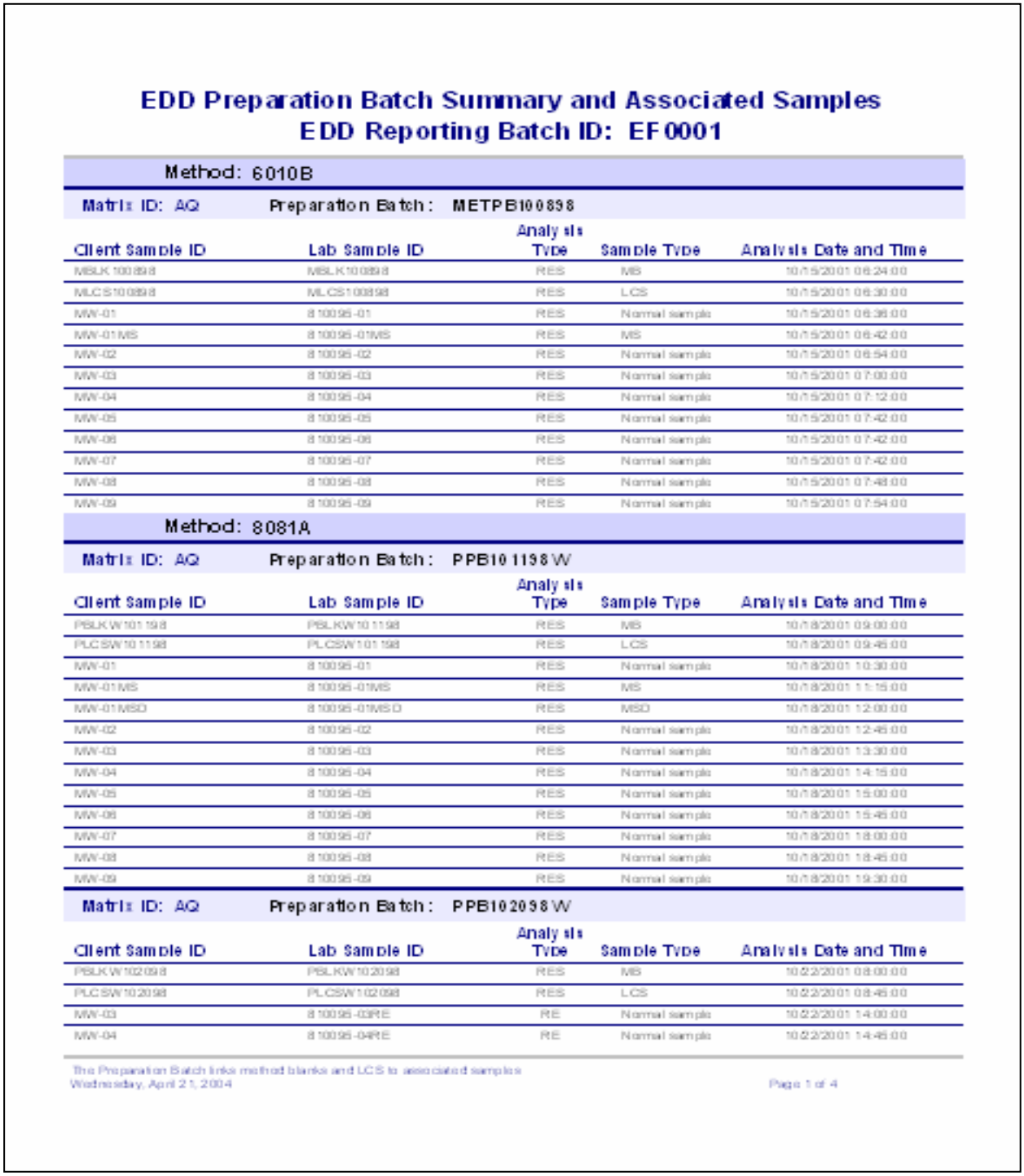
1. Click here to open the **Print EDD QC Batch associations** pop-up screen.

2. Select the batch summary reports to review and/or print.

3. Click **Print Preview** to view on-screen reports. Click **Close** to return to the main **EDD Error Check** screen.

3.7.1 QC Batch Summary Report Example

Figure 3-11



EDD Preparation Batch Summary and Associated Samples
EDD Reporting Batch ID: EF0001

Method: 6010B

Matrix ID: AQ **Preparation Batch: METPB100898**

Client Sample ID	Lab Sample ID	Analysis Type	Sample Type	Analysis Date and Time
MBLK100898	MBLK100898	RES	MB	10/15/2001 06:24:00
MLCS100898	MLCS100898	RES	LCS	10/15/2001 06:30:00
MW-01	8100S6-01	RES	Normal sample	10/15/2001 06:36:00
MW-01MS	8100S6-01MS	RES	MS	10/15/2001 06:42:00
MW-02	8100S6-02	RES	Normal sample	10/15/2001 06:54:00
MW-03	8100S6-03	RES	Normal sample	10/15/2001 07:00:00
MW-04	8100S6-04	RES	Normal sample	10/15/2001 07:12:00
MW-05	8100S6-05	RES	Normal sample	10/15/2001 07:42:00
MW-06	8100S6-06	RES	Normal sample	10/15/2001 07:42:00
MW-07	8100S6-07	RES	Normal sample	10/15/2001 07:42:00
MW-08	8100S6-08	RES	Normal sample	10/15/2001 07:48:00
MW-09	8100S6-09	RES	Normal sample	10/15/2001 07:54:00

Method: 8081A

Matrix ID: AQ **Preparation Batch: PPB101198W**

Client Sample ID	Lab Sample ID	Analysis Type	Sample Type	Analysis Date and Time
PBLKW101198	PBLKW101198	RES	MB	10/18/2001 09:00:00
PLCSW101198	PLCSW101198	RES	LCS	10/18/2001 09:45:00
MW-01	8100S6-01	RES	Normal sample	10/18/2001 10:30:00
MW-01MS	8100S6-01MS	RES	MS	10/18/2001 11:15:00
MW-01MSD	8100S6-01MSD	RES	MSD	10/18/2001 12:00:00
MW-02	8100S6-02	RES	Normal sample	10/18/2001 12:45:00
MW-03	8100S6-03	RES	Normal sample	10/18/2001 13:30:00
MW-04	8100S6-04	RES	Normal sample	10/18/2001 14:15:00
MW-05	8100S6-05	RES	Normal sample	10/18/2001 15:00:00
MW-06	8100S6-06	RES	Normal sample	10/18/2001 15:45:00
MW-07	8100S6-07	RES	Normal sample	10/18/2001 18:00:00
MW-08	8100S6-08	RES	Normal sample	10/18/2001 18:45:00
MW-09	8100S6-09	RES	Normal sample	10/18/2001 19:30:00

Matrix ID: AQ **Preparation Batch: PPB102098W**

Client Sample ID	Lab Sample ID	Analysis Type	Sample Type	Analysis Date and Time
PBLKW102098	PBLKW102098	RES	MB	10/22/2001 08:00:00
PLCSW102098	PLCSW102098	RES	LCS	10/22/2001 08:45:00
MW-03	8100S6-03RE	RE	Normal sample	10/22/2001 14:00:00
MW-04	8100S6-04RE	RE	Normal sample	10/22/2001 14:45:00

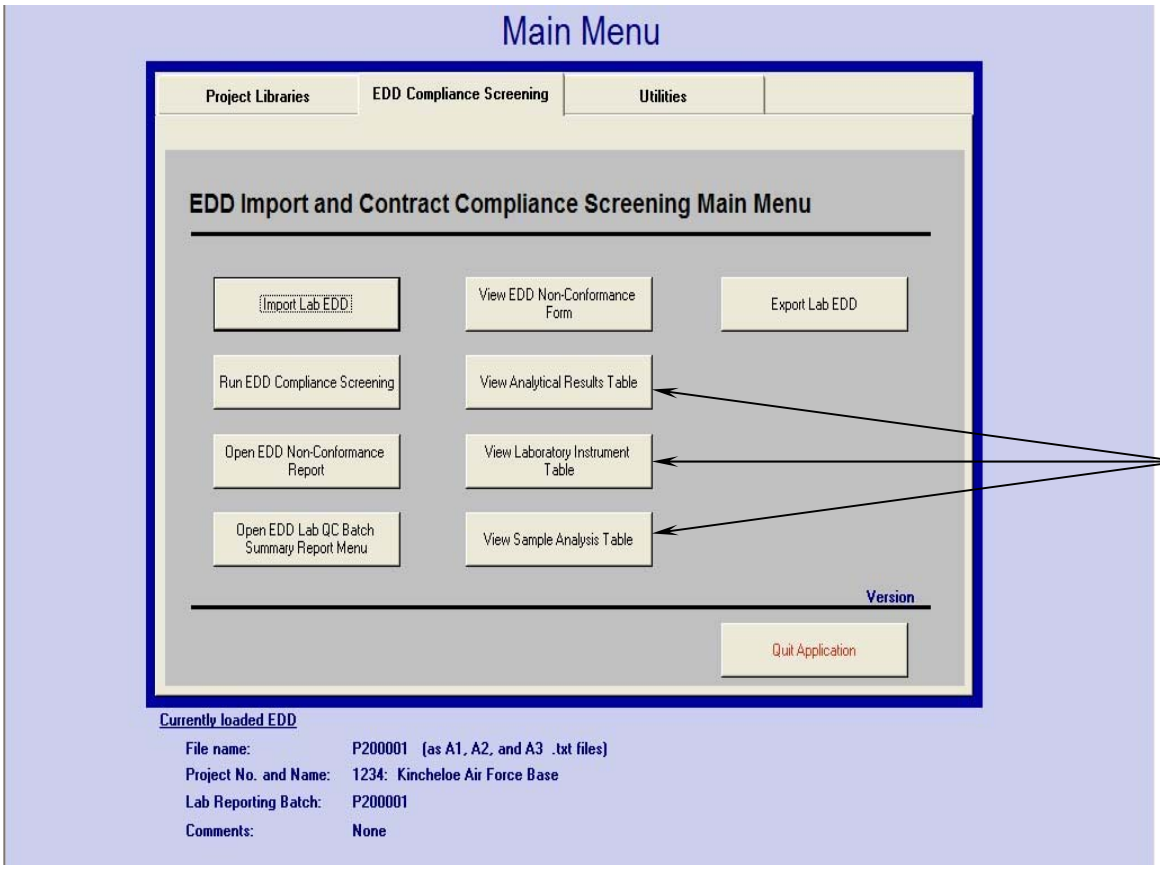
This Preparation Batch links method blanks and LCS to associated samples

Wednesday, April 21, 2004 Page 1 of 4

3.8 VIEWING/MODIFYING EDD FILES

Appendix A provides detailed information on the field types, field length, standard values, and required fields, for each EDD table. After running the error check and reviewing the EDD error log, open the EDD by clicking on the **View EDD** button and make corrections. The Error Log and Error Report provide information to quickly locate and correct EDD errors. Each error is catalogued by a code number and table name, and where applicable, record number and field name. Most errors include a detailed description. Use the error report along with the filter, find, and sort tools within Access to facilitate locating and correcting errors within the tables. After making corrections, run the error check again and review the new error report. If necessary, make additional corrections and run the error check again. Repeat this process until the error report is acceptable. Since the EDD Error Check uses the project library as its reference, it is recommended to have printouts of the various QC parameters in your project library when correcting EDD errors.

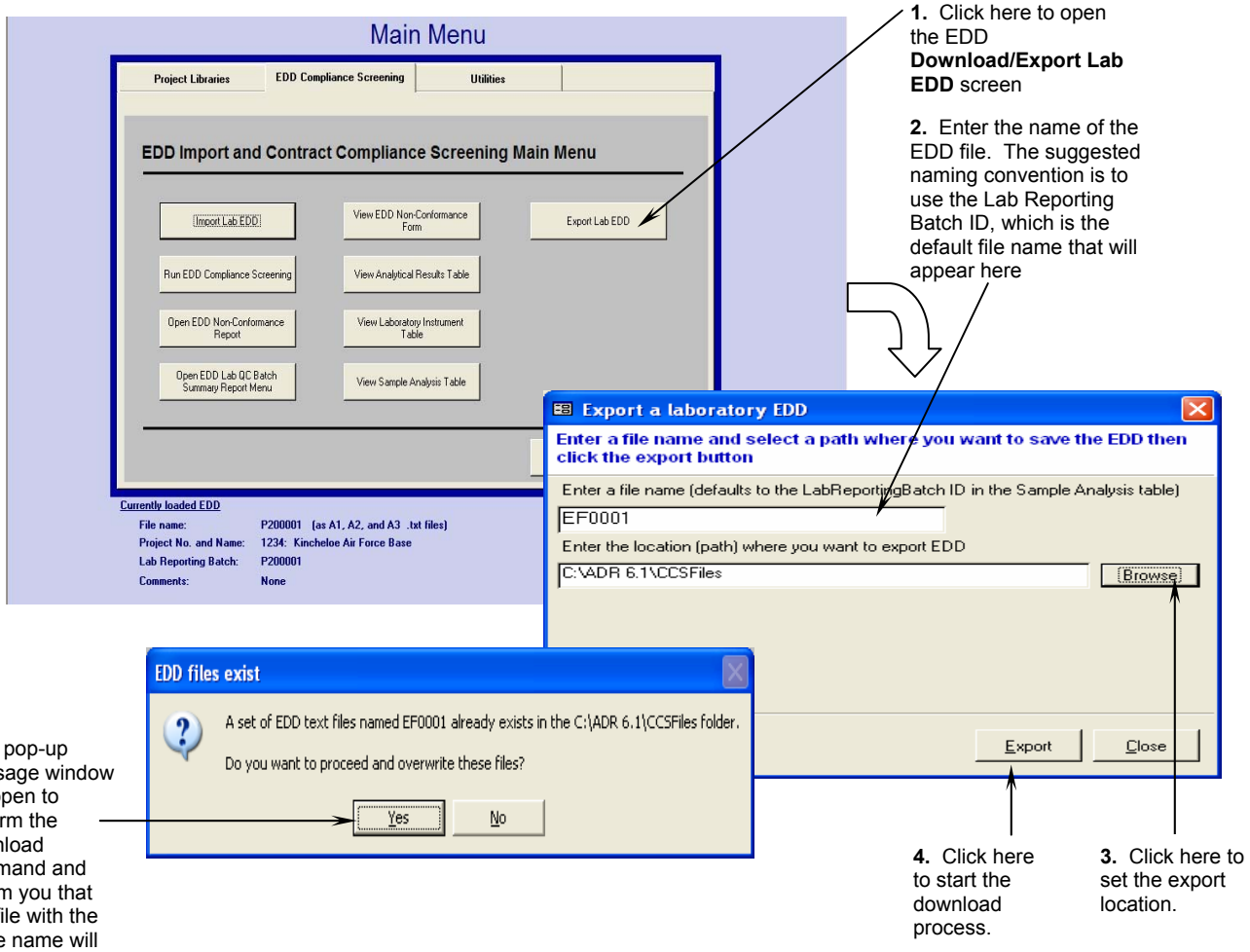
Figure 3-12


Main Menu
Project Libraries
EDD Compliance Screening
Utilities
EDD Import and Contract Compliance Screening Main Menu
Import Lab EDD
View EDD Non-Conformance Form
Export Lab EDD
Run EDD Compliance Screening
View Analytical Results Table
Open EDD Non-Conformance Report
View Laboratory Instrument Table
Open EDD Lab QC Batch Summary Report Menu
View Sample Analysis Table
Version
Quit Application
Currently loaded EDD
File name: P200001 (as A1, A2, and A3 .txt files)
Project No. and Name: 1234: Kincheloe Air Force Base
Lab Reporting Batch: P200001
Comments: None
Click here to view information in the EDD Database tables.

3.9 EXPORTING EDD FILES

After correcting EDD errors or making any modification to the EDD, download the EDD to save your changes (the uploading of another EDD will overwrite the current EDD and any changes that have been made). The EDD will be exported to the folder selected by the user.

Figure 3-13


Main Menu
Project Libraries
EDD Compliance Screening
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Import Lab EDD
View EDD Non-Conformance Form
Export Lab EDD
Run EDD Compliance Screening
View Analytical Results Table
Open EDD Non-Conformance Report
View Laboratory Instrument Table
Open EDD Lab QC Batch Summary Report Menu
View Sample Analysis Table
Currently loaded EDD
File name: P200001 (as A1, A2, and A3 .txt files)
Project No. and Name: 1234: Kincheloe Air Force Base
Lab Reporting Batch: P200001
Comments: None
Export a laboratory EDD
Enter a file name and select a path where you want to save the EDD then click the export button
Enter a file name (defaults to the LabReportingBatch ID in the Sample Analysis table)
EF0001
Enter the location (path) where you want to export EDD
C:\ADR 6.1\CCSFiles
Browse
Export
Close
EDD files exist
A set of EDD text files named EF0001 already exists in the C:\ADR 6.1\CCSFiles folder.
Do you want to proceed and overwrite these files?
Yes
No

1. Click here to open the EDD **Download/Export Lab EDD** screen

2. Enter the name of the EDD file. The suggested naming convention is to use the Lab Reporting Batch ID, which is the default file name that will appear here

3. Click here to set the export location.

4. Click here to start the download process.

5. A pop-up message window will open to confirm the download command and inform you that any file with the same name will be overwritten. Click **Yes** to continue. Click **No** to change the download filename.

Some tips regarding exporting EDD files:

- When you export the EDD, four comma delimited ASCII text files are created: The EDD and the EDD error log.
- The EDD is downloaded into the **CCSFiles** subdirectory, or a subdirectory of the user's choice.
- Before uploading a new EDD file make sure you have downloaded the current uploaded file if changes were made.

4.0
Validation Module

4.1 AUTOMATED DATA REVIEW PROCESS

The software automatically reviews sample results against method holding time, MDL, blank contamination, and laboratory quality control parameters. The software then updates sample result records with data review qualifiers if review parameters exceed project criteria specified in the project library. An EDD is ready for automated data review if error checking reveals no EDD errors. The automated data review process involves the following steps:

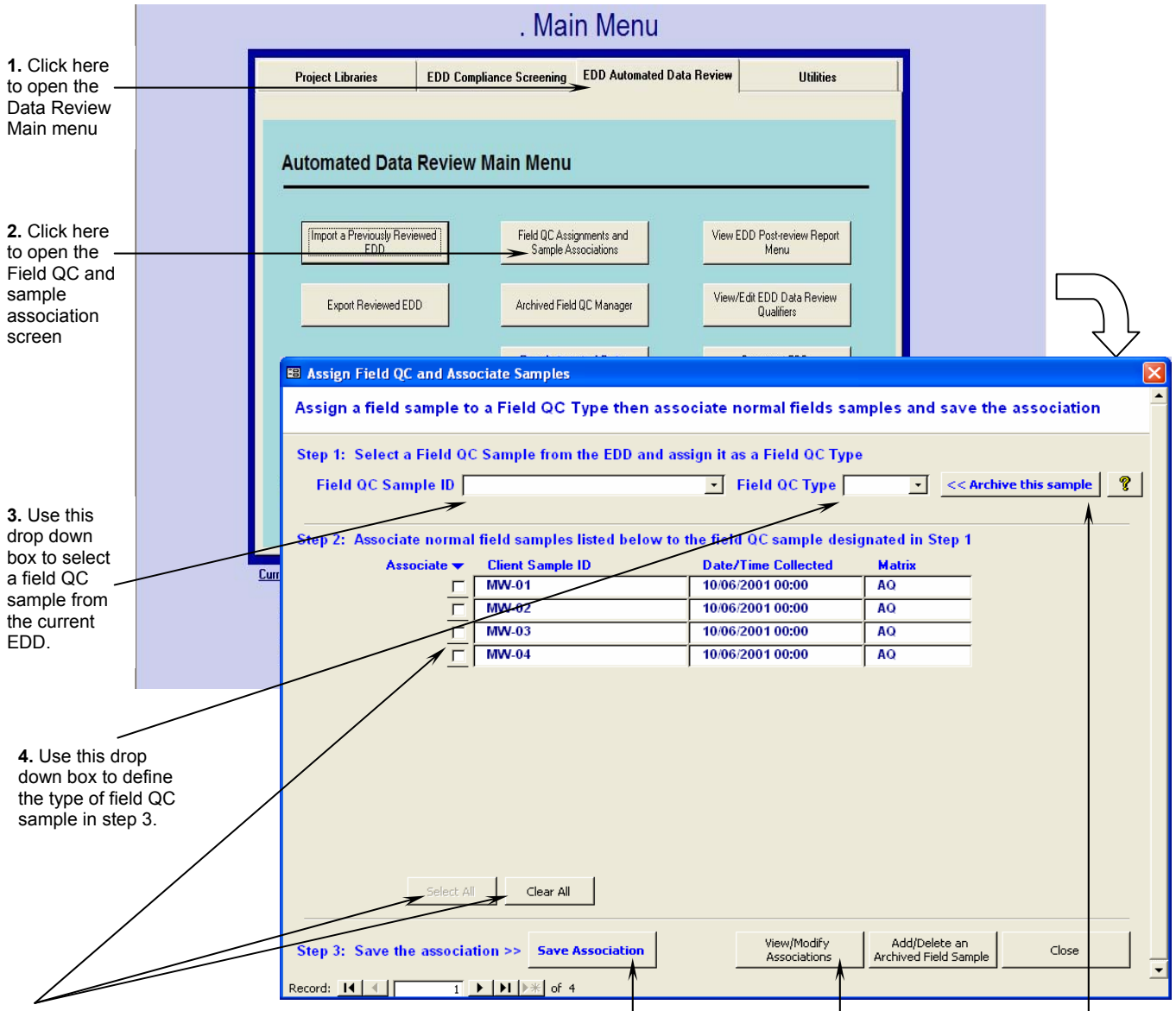
- Import the lab EDD with the EDD Error Check menu (Covered in Section 3.3)
- Run the EDD error check to confirm an error free EDD (Covered in Section 3.4)
- Make field QC assignments and sample association, if necessary (Covered in Section 4.2)
- Open data review menu, select a project library, select data review parameters, and run automated data review (Covered in Section 4.4)
- View results and print reports (Covered in Sections 4.6 and 4.7)

When the automated data review process has finished you may view post-review sample results and associated laboratory quality control results on screen. You may change data-review qualifiers, if necessary. Changes to data review qualifiers must be documented with the date of edit, the person performing the edit, and a reason for the edit before they are written to the EDD. The software keeps a history of any changes made to data review qualifiers after running automated data review. It also provides a variety of post-data review reports. These reports include data qualifier reports and quality control outlier reports. After final approval the reviewed EDD is exported. Previously reviewed EDDs can be re-imported if necessary.

4.2 SELECT FIELD QC AND ASSOCIATED SAMPLES

Identify which samples reported in the EDD are field QC samples such as field blanks, equipment blanks, etc., and associate samples to each Field QC type.

Figure 4-1



1. Click here to open the Data Review Main menu

2. Click here to open the Field QC and sample association screen

3. Use this drop down box to select a field QC sample from the current EDD.

4. Use this drop down box to define the type of field QC sample in step 3.

5. Associate samples to this Field QC sample by using any combination of checking the box next to an individual sample, clicking the **Select All** button, or clicking the **Clear All** button.

6. Save the current associations on screen by clicking the **Save/Append Selection** button.

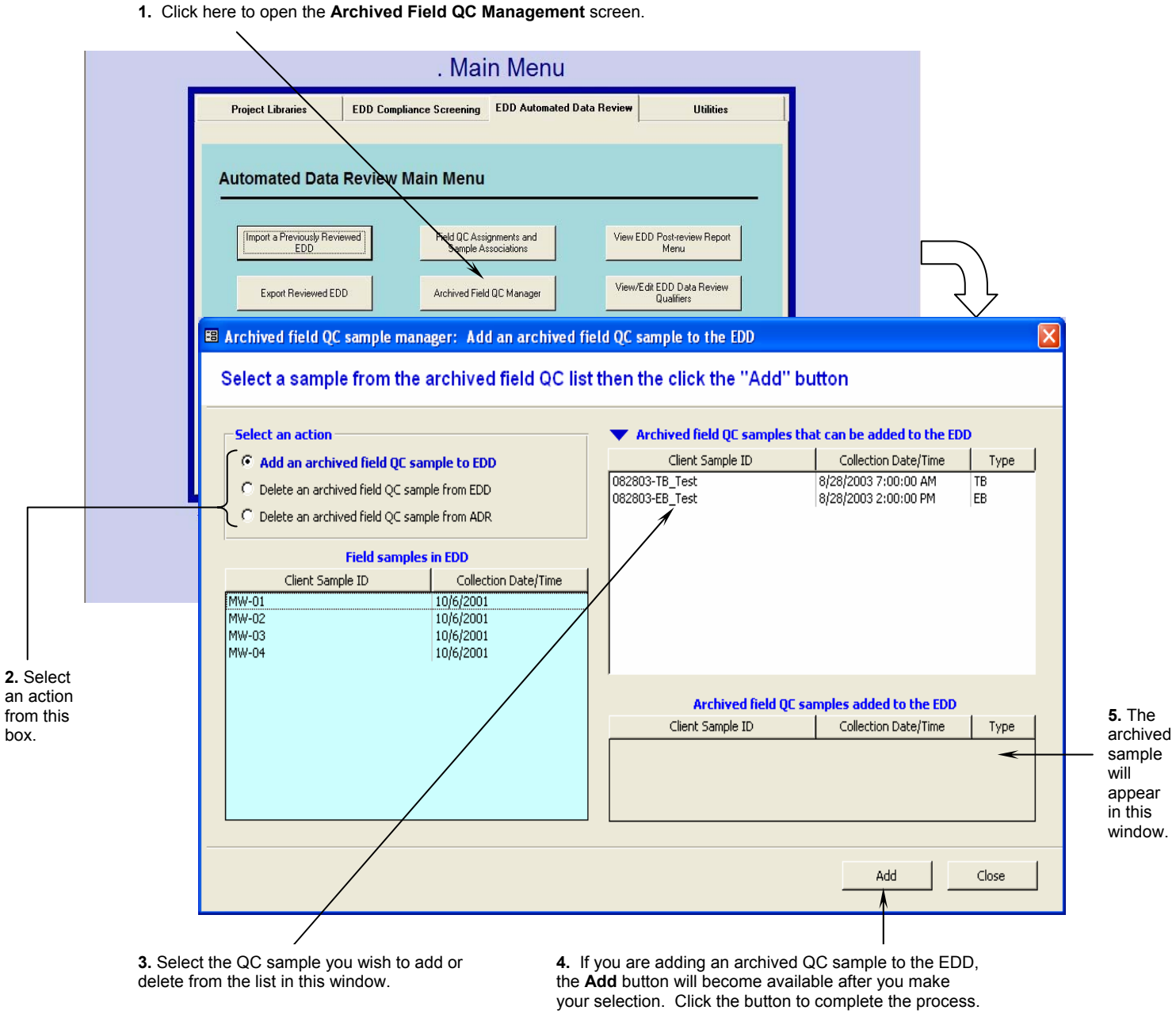
7. Click the **View/Modify Associations** button from this screen to open the **View/Modify: Field QC and Associated Samples** screen. This is discussed further in the next section.

8. Clicking the Archive button stores all records for the field QC sample assigned in Step 3. This field QC sample can then be selected at a later time for data review of sample results in EDDs that do not report this field QC sample.

4.2.1 Archived Field QC Management

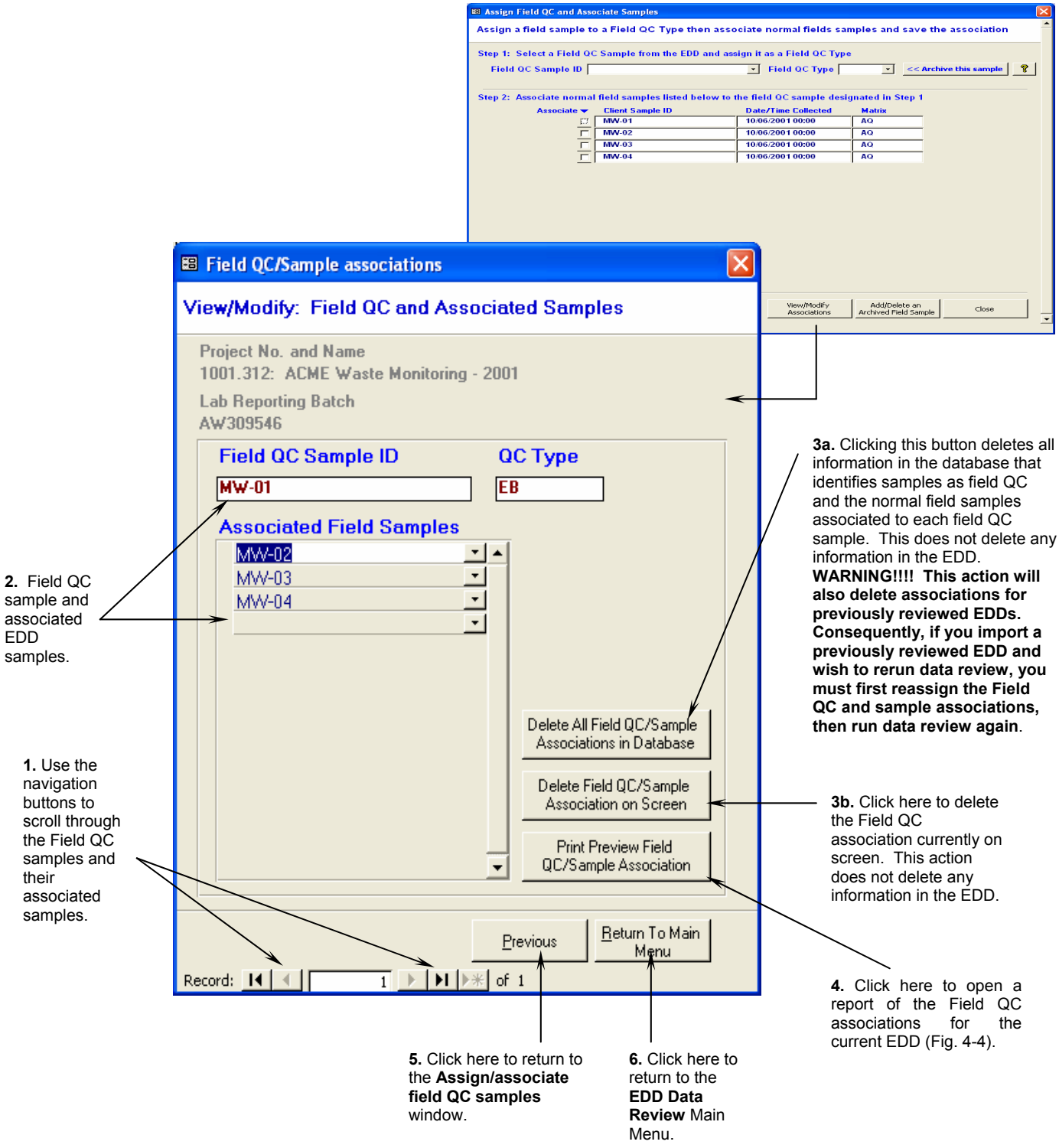
Any field QC selected for archiving in Step 8 of Figure 4-1 can be accessed through this screen. For example, an equipment rinsate sample may be selected to cover several different EDDs. In this case, the rinsate would first be selected to archive in the original EDD. After another EDD has been imported, you would open the screen below, select **Add an archived field QC sample to EDD** from the top left box, select the appropriate QC sample from the **Archived field QC samples that can be added to the EDD** window in the upper right hand corner, then click the Add button in the bottom right corner of the window. The user would then repeat the process outlined in section 4.2 above to select the EDD samples to assign to the archived QC sample(s).

Figure 4-2


1. Click here to open the **Archived Field QC Management** screen.
. Main Menu
Project Libraries
EDD Compliance Screening
EDD Automated Data Review
Utilities
Automated Data Review Main Menu
Import a Previously Reviewed EDD
Field QC Assignments and Sample Associations
View EDD Post-review Report Menu
Export Reviewed EDD
Archived Field QC Manager
View/Edit EDD Data Review Qualifiers
Archived field QC sample manager: Add an archived field QC sample to the EDD
Select a sample from the archived field QC list then the click the "Add" button
Select an action
Add an archived field QC sample to EDD
Delete an archived field QC sample from EDD
Delete an archived field QC sample from ADR
Field samples in EDD
Client Sample ID
Collection Date/Time
MW-01 10/6/2001
MW-02 10/6/2001
MW-03 10/6/2001
MW-04 10/6/2001
Archived field QC samples that can be added to the EDD
Client Sample ID
Collection Date/Time
Type
082803-TB_Test 8/28/2003 7:00:00 AM TB
082803-EB_Test 8/28/2003 2:00:00 PM EB
Archived field QC samples added to the EDD
Client Sample ID
Collection Date/Time
Type
Add
Close
2. Select an action from this box.
3. Select the QC sample you wish to add or delete from the list in this window.
4. If you are adding an archived QC sample to the EDD, the **Add** button will become available after you make your selection. Click the button to complete the process.
5. The archived sample will appear in this window.

4.3 VIEW/MODIFY FIELD QC ASSOCIATIONS

Figure 4-3


Assign Field QC and Associate Samples
Assign a field sample to a Field QC Type then associate normal fields samples and save the association
Step 1: Select a Field QC Sample from the EDD and assign it as a Field QC Type
Field QC Sample ID
Field QC Type
<< Archive this sample
Step 2: Associate normal field samples listed below to the field QC sample designated in Step 1
Associate
Client Sample ID
Date/Time Collected
Matrix
MW-01 10/06/2001 00:00 AQ
MW-02 10/06/2001 00:00 AQ
MW-03 10/06/2001 00:00 AQ
MW-04 10/06/2001 00:00 AQ
View/Modify Associations
Add/Delete an Archived Field Sample
Close
Field QC/Sample associations
View/Modify: Field QC and Associated Samples
Project No. and Name
1001.312: ACME Waste Monitoring - 2001
Lab Reporting Batch
AW309546
Field QC Sample ID
QC Type
MW-01
EB
Associated Field Samples
MW-02
MW-03
MW-04
Delete All Field QC/Sample Associations in Database
Delete Field QC/Sample Association on Screen
Print Preview Field QC/Sample Association
Previous
Return To Main Menu
Record:
1
of 1

2. Field QC sample and associated EDD samples.

1. Use the navigation buttons to scroll through the Field QC samples and their associated samples.

3a. Clicking this button deletes all information in the database that identifies samples as field QC and the normal field samples associated to each field QC sample. This does not delete any information in the EDD. **WARNING!!!! This action will also delete associations for previously reviewed EDDs. Consequently, if you import a previously reviewed EDD and wish to rerun data review, you must first reassign the Field QC and sample associations, then run data review again**.

3b. Click here to delete the Field QC association currently on screen. This action does not delete any information in the EDD.

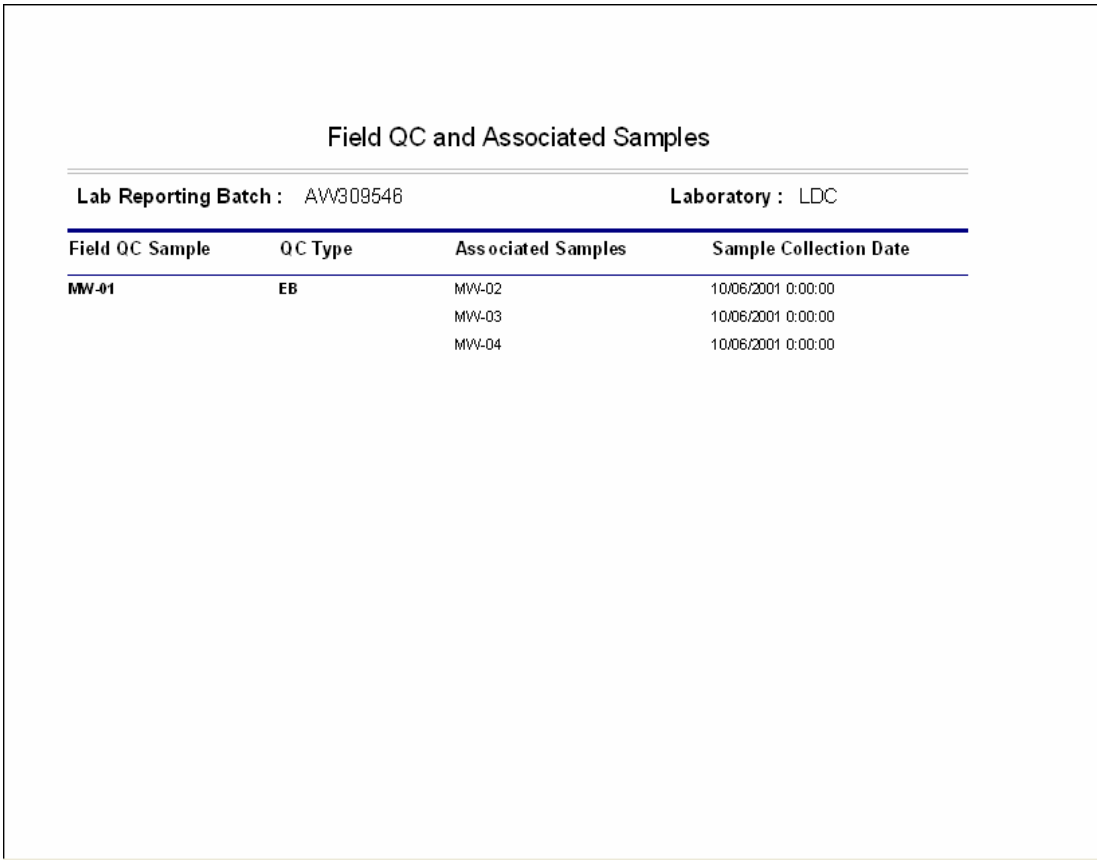
4. Click here to open a report of the Field QC associations for the current EDD (Fig. 4-4).

5. Click here to return to the **Assign/associate field QC samples** window.

6. Click here to return to the **EDD Data Review** Main Menu.

4.3.1 Field QC and Associated Samples Report

Figure 4-4



Field QC and Associated Samples

Lab Reporting Batch : AW309546 **Laboratory :** LDC

Field QC Sample	QC Type	Associated Samples	Sample Collection Date
MW-01	**EB**	MW-02	10/06/2001 0:00:00
		MW-03	10/06/2001 0:00:00
		MW-04	10/06/2001 0:00:00

4.4 RUNNING AUTOMATED DATA REVIEW

An EDD is ready for automated data review after correcting errors that were found in the EDD Error Check module, and making field QC assignments and sample associations as described in **Figure 4-1**.

The first step (See Fig. 4-4) to running automated data review is to select the project library. This was created in section 2 of this manual and is populated with all the methods, analytes, and corresponding precision and accuracy control limits, as well as holding times. After selecting the project library you must make several choices as to the scope of validation required.

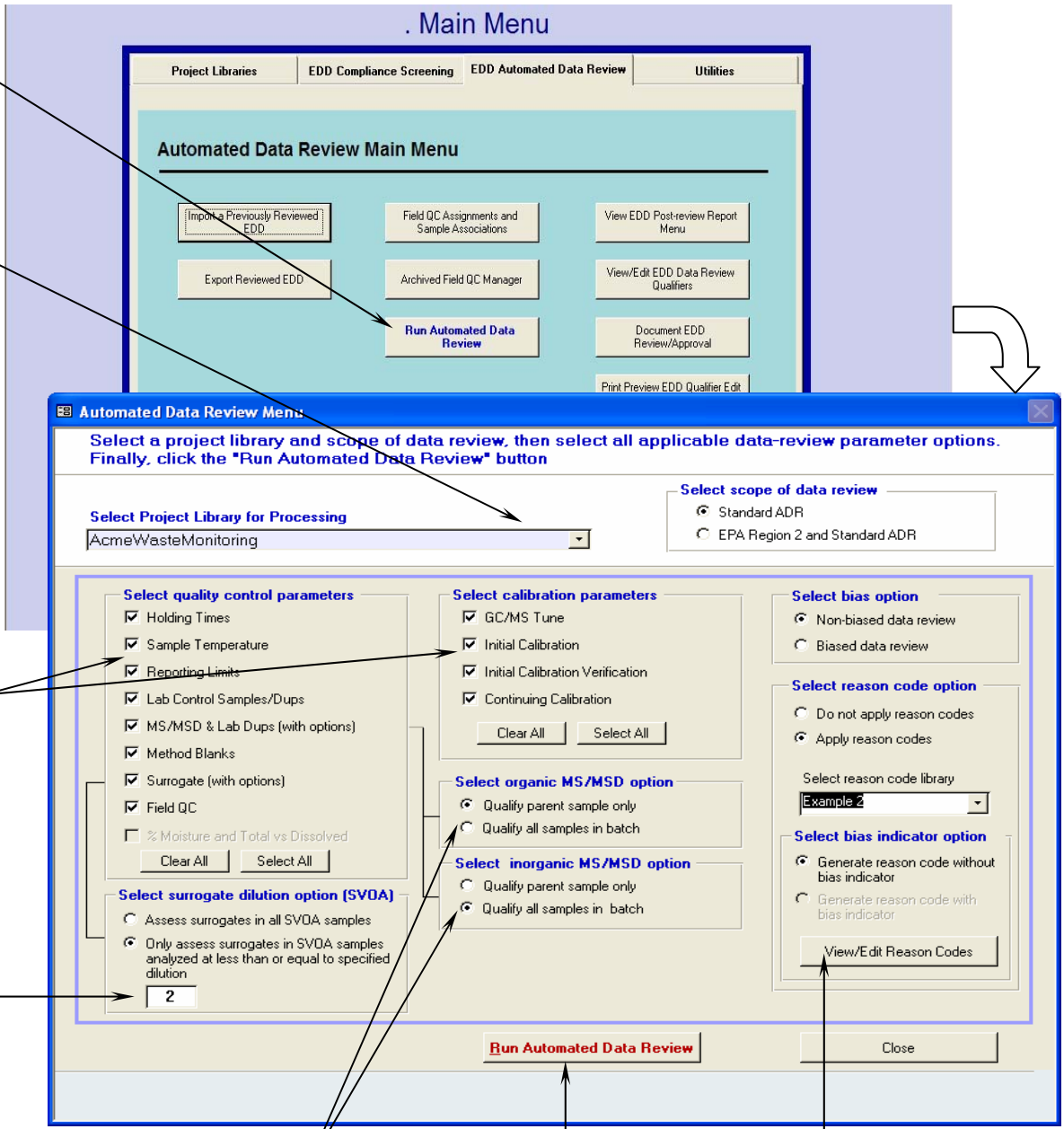
In the top left of the review screen you must select one or more review elements. You may choose all or any combination of these. Based on your selections you may have other choices to make. For instance if you select the Matrix Spikes/Dups option you will be able to select whether the Matrix Spike will qualify only the parent sample or the entire method batch for both organics and inorganics. Also, if you select the option to have the surrogates evaluated you will be able to specify a dilution cut-off for Semi-Volatile methods. For example if you select this option and set the dilution factor to 20 and there is a semi-volatile sample in the EDD at a dilution of 50, the surrogates in the sample will not be evaluated.

Reason codes may be assigned to qualified data. A reason code is a code that will give definition to a qualified result. Reason codes may be modified and are maintained similar to the library. A list of the example reason codes is available by clicking on the View Reason Codes at the bottom middle of the screen (see Figure 4-6).

When you have made all your selections click the **Run Automated Data Review** button to start the process. A window will appear letting you know that data review is done (Note: if there are any critical errors in the library or EDD at this point a report will open up listing these errors and instruct you to fix them before the data review process can continue). When you click OK you will be returned to the Data Review Main screen.

4.4.1 Snapshot of starting the Data Review process

Figure 4-5


. Main Menu
Project Libraries
EDD Compliance Screening
EDD Automated Data Review
Utilities
Automated Data Review Main Menu
Import a Previously Reviewed EDD
Field QC Assignments and Sample Associations
View EDD Post-review Report Menu
Export Reviewed EDD
Archived Field QC Manager
View/Edit EDD Data Review Qualifiers
Run Automated Data Review
Document EDD Review/Approval
Print Preview EDD Qualifier Edit
Automated Data Review Menu
Select a project library and scope of data review, then select all applicable data-review parameter options.
Finally, click the "Run Automated Data Review" button
Select Project Library for Processing
AcmeWasteMonitoring
Select scope of data review
Standard ADR
EPA Region 2 and Standard ADR
Select quality control parameters
Holding Times
Sample Temperature
Reporting Limits
Lab Control Samples/Dups
MS/MSD & Lab Dups (with options)
Method Blanks
Surrogate (with options)
Field QC
% Moisture and Total vs Dissolved
Clear All
Select All
Select surrogate dilution option (SVOA)
Assess surrogates in all SVOA samples
Only assess surrogates in SVOA samples analyzed at less than or equal to specified dilution
2
Select calibration parameters
GC/MS Tune
Initial Calibration
Initial Calibration Verification
Continuing Calibration
Clear All
Select All
Select organic MS/MSD option
Qualify parent sample only
Qualify all samples in batch
Select inorganic MS/MSD option
Qualify parent sample only
Qualify all samples in batch
Select bias option
Non-biased data review
Biased data review
Select reason code option
Do not apply reason codes
Apply reason codes
Select reason code library
Example 2
Select bias indicator option
Generate reason code without bias indicator
Generate reason code with bias indicator
View/Edit Reason Codes
Run Automated Data Review
Close

1. Click here to open the **Automated Data Review** window

2. Select the project library from the drop down menu.

3. Select the elements that you would like to validate this EDD for.

4. If validating for surrogates you may select to not qualify samples that have been diluted past a specified factor. The default is to qualify all samples.

5. If validating for MS/MSD you may select to qualify the whole method batch or only the parent sample for both organics and inorganics. The default is to qualify the whole batch.

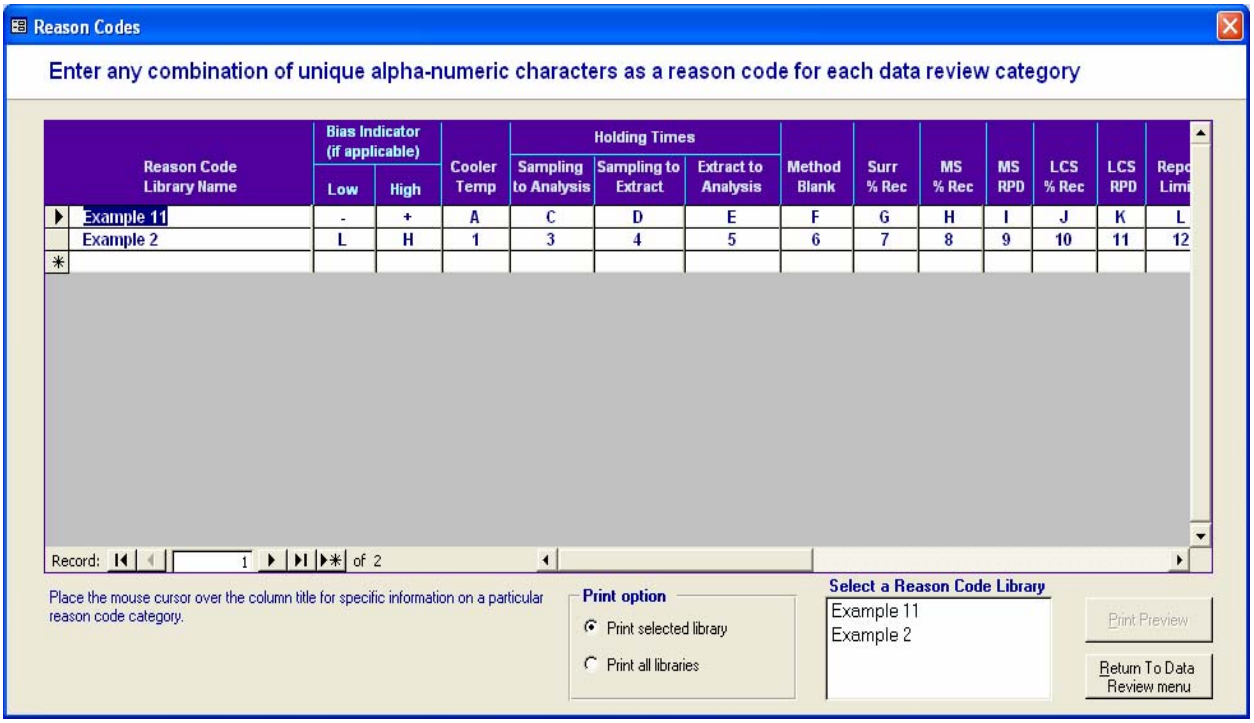
7. Click here to start the Automated Data Review.

6. Click here to view a printable list of the reason codes. See Figure 4-6.

4.5 DATA REVIEW REASON CODES

The reason codes are defined and reside in a separate library. The Reason Codes may be modified by the user. Reason code libraries may be added as necessary also. Figure 4-6 shows a list of the example reason codes in the library.

Figure 4-6


Reason Codes
Enter any combination of unique alpha-numeric characters as a reason code for each data review category
Reason Code Library Name
Bias Indicator (if applicable)
Low
High
Cooler Temp
Holding Times
Sampling to Analysis
Sampling to Extract
Extract to Analysis
Method Blank
Surr % Rec
MS % Rec
MS RPD
LCS % Rec
LCS RPD
Example 11 - + A C D E F G H I J K L
Example 2 L H 1 3 4 5 6 7 8 9 10 11 12
Record: 1 of 2
Place the mouse cursor over the column title for specific information on a particular reason code category.
Print option
Print selected library
Print all libraries
Select a Reason Code Library
Example 11
Example 2
Print Preview
Return To Data Review menu

4.6 VIEWING DATA REVIEW RESULTS

After the data review process is finished, you may view the resulting qualifiers for a specific sample and method. From the EDD Data Review Main Menu, click on the **View/Edit EDD Data Review Qualifiers**. This will open the **Data Review Summary** screen. At the top left of this screen, there is a pull-down menu of all the samples in the EDD listed by Field Sample ID. From this menu, select the Field Sample ID you want to review. After the sample is selected by the user, two tables will appear below. The first table is a list of the various methods that were run on that particular sample and the corresponding Lab ID(s) for the Field Sample ID selected. Results for the sample can then be viewed along with any data review qualifiers by either selecting the Lab Sample ID from the first column and then clicking on the **Sample Results** button at the bottom left of the screen or by clicking on the method for that Lab Sample ID in the green-shaded column. Either of these actions will display the results for the method selected along with any applicable qualifiers in the table directly below. The overall review qualifier is listed in the green-shaded column to the right of the result and by scrolling to the right the user will see the area(s) where the qualifier was applied. For example, if the sample is qualified as estimated due to problems with the percent recovery of a matrix spike, a J will appear in the MS overall and The MS Recovery columns. If the user wishes to see the results of the MS which caused the qualification, then click on the **MS/MSD** button in the **View associated QC** box at the bottom of the window. This will cause the Sample results window to be replaced with a window displaying the MS/MSD results associated with the selected sample. The same procedure can be applied to the method blanks, LCS, lab dups and surrogate results by clicking on the corresponding button. To close this window and return to the sample results window, click on the **Sample Results** button again.

Qualifiers can be edited for any sample result simply by double-clicking on the analyte name. This will open the **Change automated data review qualifiers** window. See section 4.6.1 for further discussion.

Figure 4-7

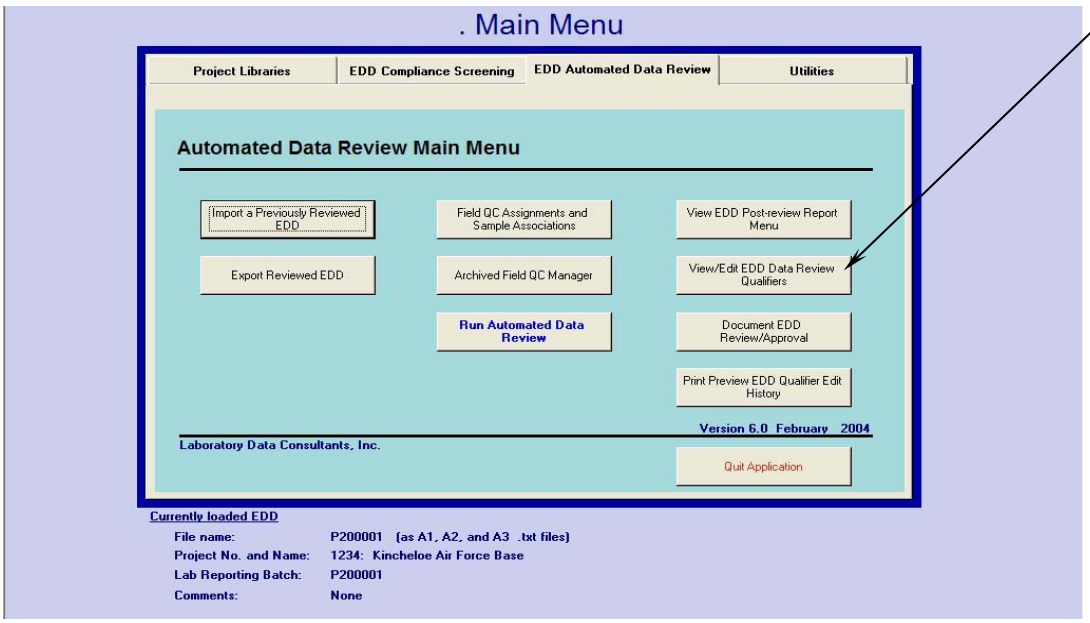
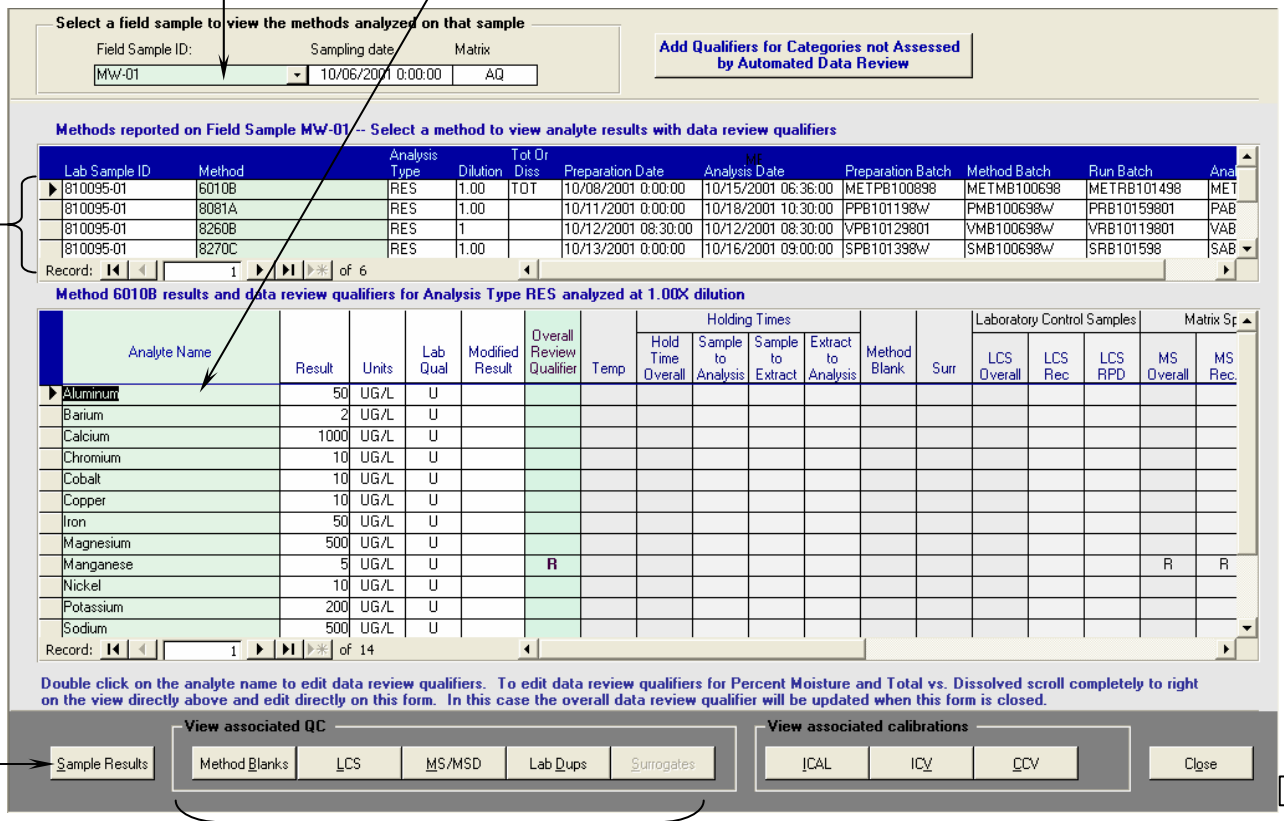

. Main Menu
Project Libraries
EDD Compliance Screening
EDD Automated Data Review
Utilities
Automated Data Review Main Menu
Import a Previously Reviewed EDD
Field QC Assignments and Sample Associations
View EDD Post-review Report Menu
Export Reviewed EDD
Archived Field QC Manager
View/Edit EDD Data Review Qualifiers
Run Automated Data Review
Document EDD Review/Approval
Print Preview EDD Qualifier Edit History
Version 6.0 February 2004
Laboratory Data Consultants, Inc.
Quit Application
Currently loaded EDD
File name: P200001 (as A1, A2, and A3 .txt files)
Project No. and Name: 1234: Kincheloe Air Force Base
Lab Reporting Batch: P200001
Comments: None
1. Click here to open the Data Review Summary screen.
To Data Review Summary screen on next page (Figure 4-8)

Figure 4-8

Results for all the target analytes, and a summary of all result qualifiers are listed here. You may perform sort and find operation on these records. The qualification summary includes the qualification contributed by each quality control and calibration element, and an overall qualifier.

1. Click here to open the pull-down menu and select the sample view by its Field Sample ID.

Double-clicking on an analyte name will open the **Change automated data review qualifiers** window which will allow the user to edit qualifiers for that analyte (see section 4.6.1 and figure 4-9).


Select a field sample to view the methods analyzed on that sample
Field Sample ID:
Sampling date
Matrix
MW-01
10/06/2001 0:00:00
AQ
Add Qualifiers for Categories not Assessed by Automated Data Review
Methods reported on Field Sample MW-01 -- Select a method to view analyte results with data review qualifiers
Lab Sample ID
Method
Analysis Type
Dilution
Tot Or Diss
Preparation Date
MS Analysis Date
Preparation Batch
Method Batch
Run Batch
810095-01 6010B RES 1.00 TOT 10/08/2001 0:00:00 10/15/2001 06:36:00 METPB100898 METMB100698 METRB101498
810095-01 8081A RES 1.00 10/11/2001 0:00:00 10/18/2001 10:30:00 PPB101198W PMB100698W PRB10159801
810095-01 8260B RES 1 10/12/2001 08:30:00 10/12/2001 08:30:00 VPB10129801 VMB100698W VRB10119801
810095-01 8270C RES 1.00 10/13/2001 0:00:00 10/16/2001 09:00:00 SPB101398W SMB100698W SRB101598
Record: 1 of 6
Method 6010B results and data review qualifiers for Analysis Type RES analyzed at 1.00X dilution
Analyte Name
Result
Units
Lab Qual
Modified Result
Overall Review Qualifier
Temp
Holding Times
Hold Time Overall
Sample to Analysis
Sample to Extract
Extract to Analysis
Method Blank
Surr
Laboratory Control Samples
LCS Overall
LCS Rec
LCS RPD
Matrix Sp
MS Overall
MS Rec.
Aluminum 50 UG/L U
Barium 2 UG/L U
Calcium 1000 UG/L U
Chromium 10 UG/L U
Cobalt 10 UG/L U
Copper 10 UG/L U
Iron 50 UG/L U
Magnesium 500 UG/L U
Manganese 5 UG/L U R R R
Nickel 10 UG/L U
Potassium 200 UG/L U
Sodium 500 UG/L U
Record: 1 of 14
Double click on the analyte name to edit data review qualifiers. To edit data review qualifiers for Percent Moisture and Total vs. Dissolved scroll completely to right on the view directly above and edit directly on this form. In this case the overall data review qualifier will be updated when this form is closed.
Sample Results
View associated QC
Method Blanks
LCS
MS/MSD
Lab Dups
Surrogates
View associated calibrations
ICAL
ICV
CCV
Close

The results of any QC sample associated with the sample selected in Step 1 may be viewed by clicking the corresponding button in the **View associated QC** box.

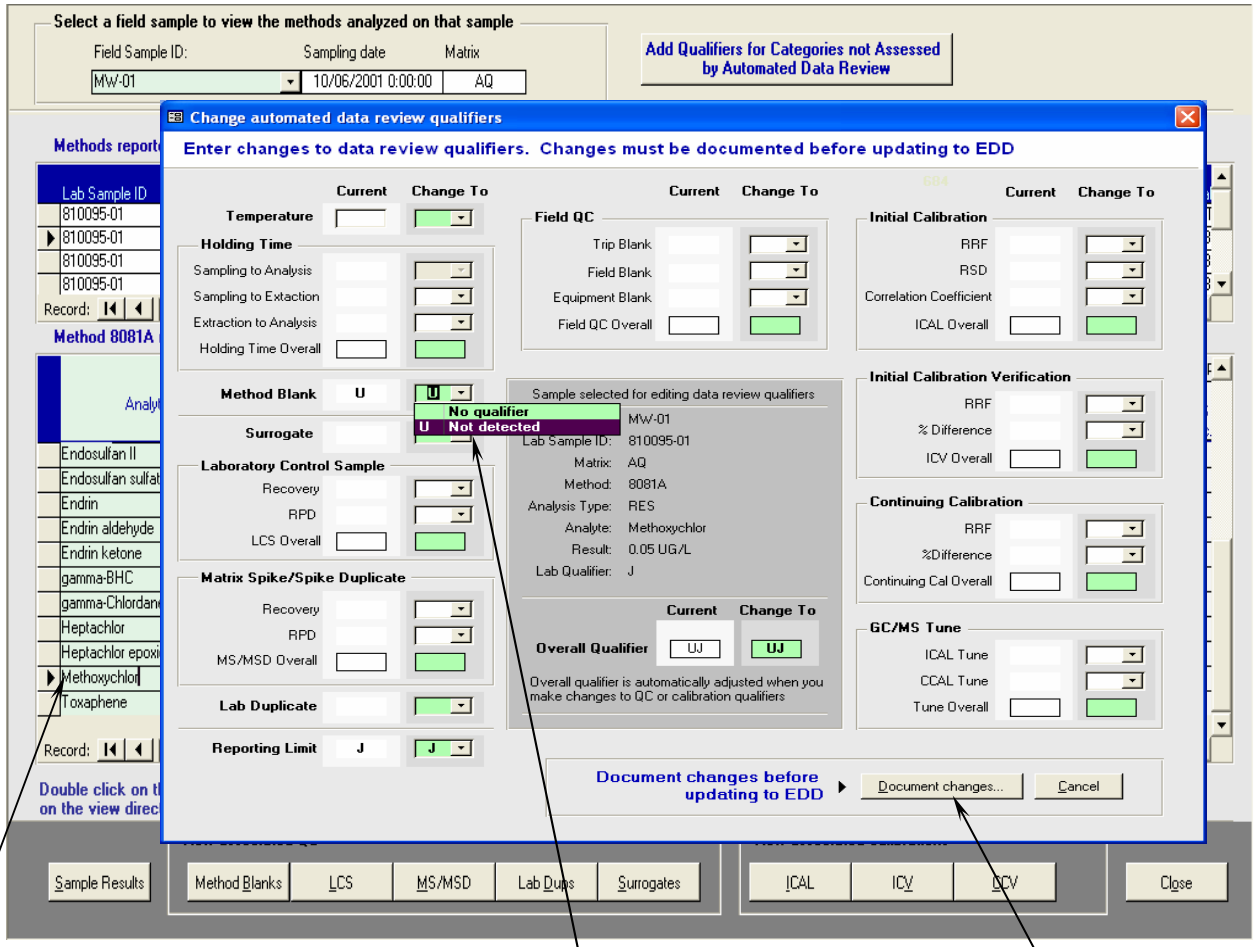
To **Change Automated Data Review Qualifiers** screen on next page (Figure 4-9)

2. All the methods performed on the sample selected in Step 1 are shown here. Note that the sample is identified here by its Lab Sample ID. It is possible that there may be multiple Lab Sample IDs for a given Field Sample ID, e.g., total vs dissolved may be given different IDs by the lab. Click on a method to view the results and qualification summary on that method for the Lab Sample ID selected. Alternatively, click on the Lab Sample ID and then click the **Sample Results** button.

4.6.1 Change Automated Data Review Qualifiers Screen

This screen allows you to make manual edits to the qualifiers. The user must click on the **Document changes** button at the bottom of the window, enter a reason for the change and enter their username in order for the change to be effective.

Figure 4-9



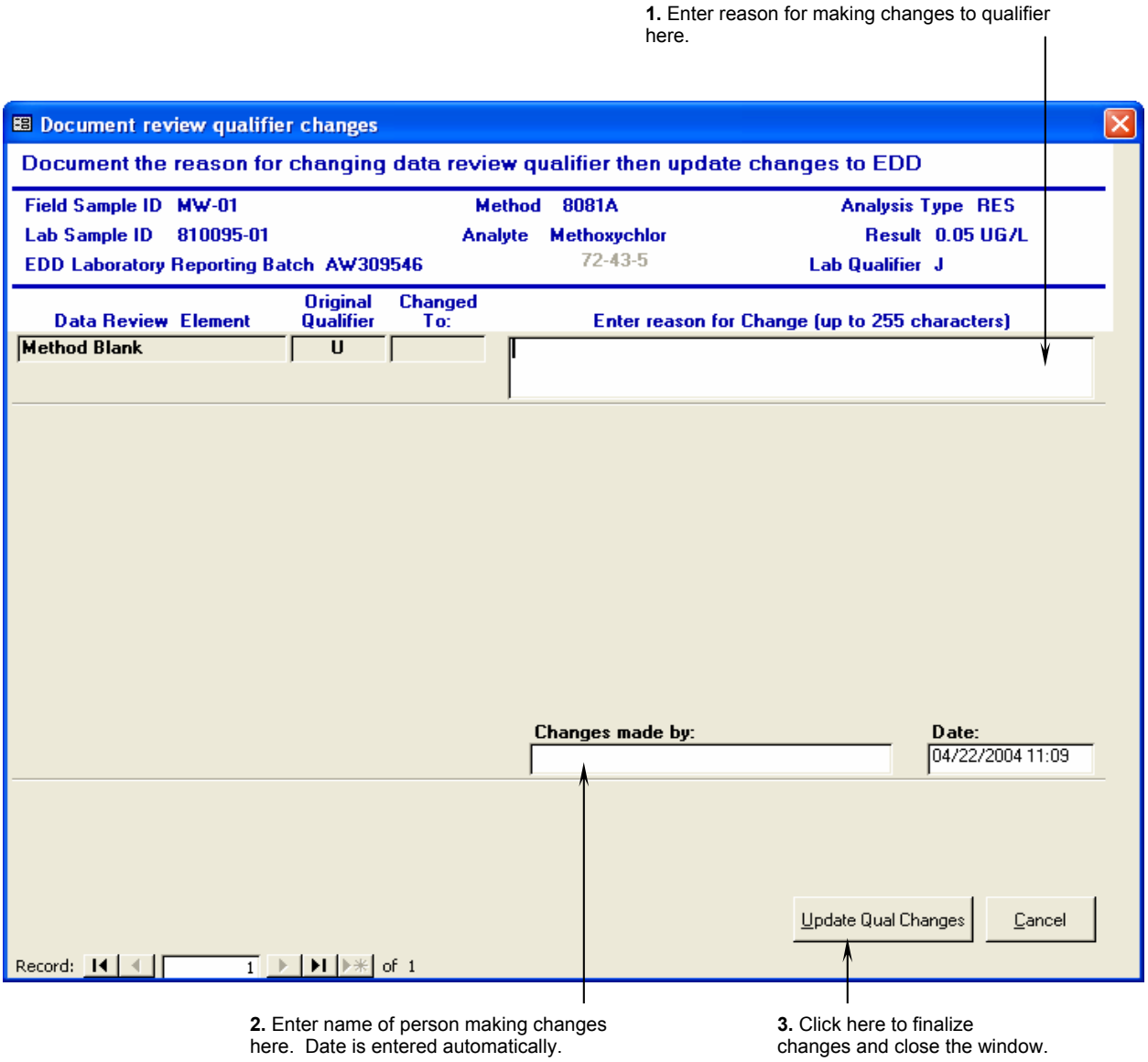
Double-clicking on the Methoxychlor field will open the Change automated data review qualifiers window for Methoxychlor. This process can be repeated for any of the sample results in the Analyte Name column.

You may manually add or remove validation findings from this screen. Place the cursor in any cell and choose from the drop-down menu to update the qualification code.

When your edits are completed, click here to finalize changes. This will open the Document review qualifier Changes window (figure 4-10).

Figure 4-10

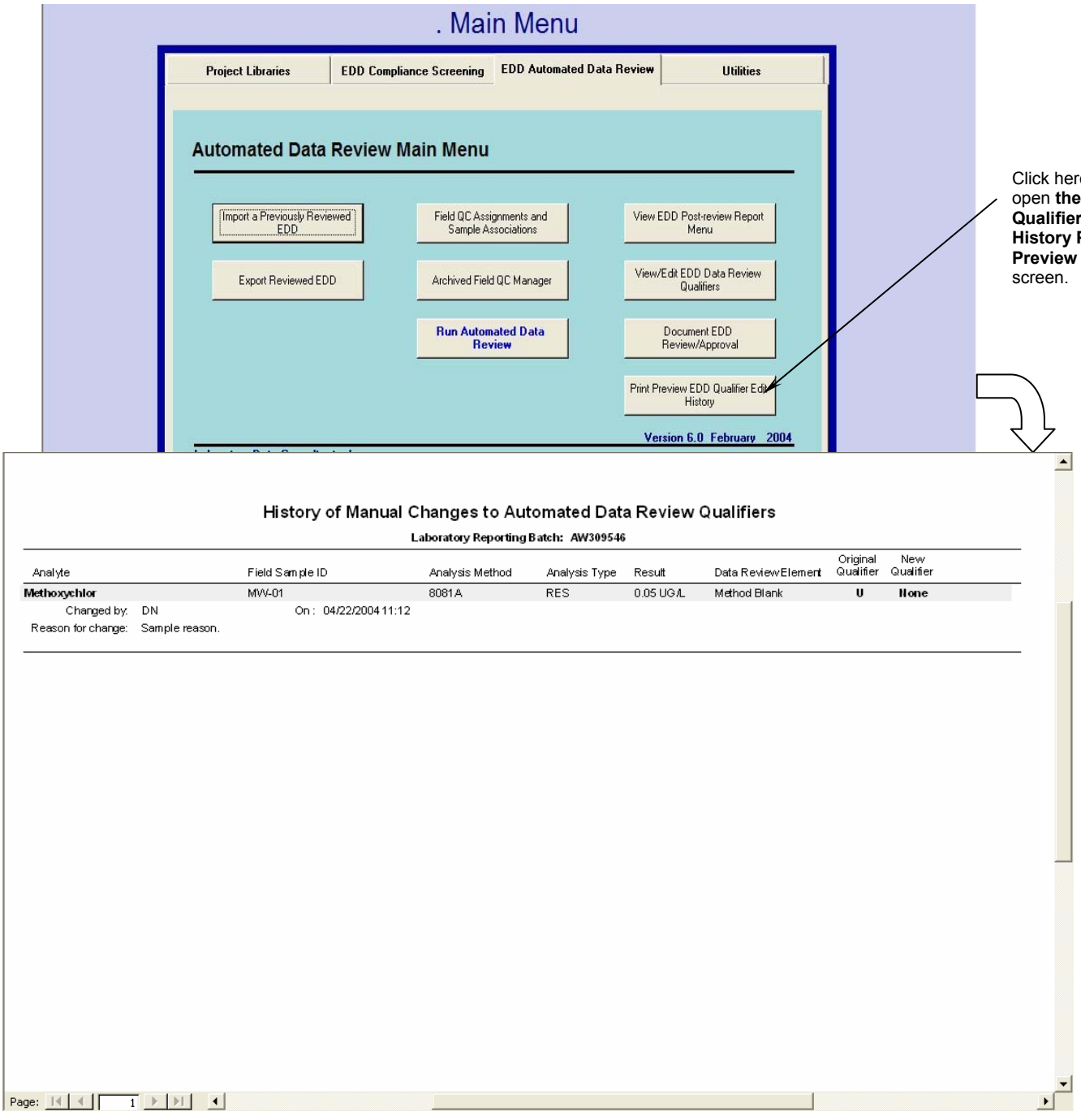
Document Review Qualifier Changes Window


1. Enter reason for making changes to qualifier here.
Document review qualifier changes
Document the reason for changing data review qualifier then update changes to EDD
Field Sample ID MW-01
Method 8081A
Analysis Type RES
Lab Sample ID 810095-01
Analyte Methoxychlor
Result 0.05 UG/L
EDD Laboratory Reporting Batch AW309546
72-43-5
Lab Qualifier J
Data Review Element
Original Qualifier
Changed To:
Enter reason for Change (up to 255 characters)
Method Blank
U
Changes made by:
Date:
04/22/2004 11:09
Update Qual Changes
Cancel
Record: 1 of 1
2. Enter name of person making changes here. Date is entered automatically.
3. Click here to finalize changes and close the window.

4.6.2 Preview EDD Qualifier Edit History Screen

Any edits made in the process described in section 4.6.1 will be documented and can be viewed by clicking this button, located at the bottom right of the EDD Data Review Tab Main Menu. Clicking this button will generate a pop-up print preview screen which shows any manual edits that have been made to the EDD.

Figure 4-11

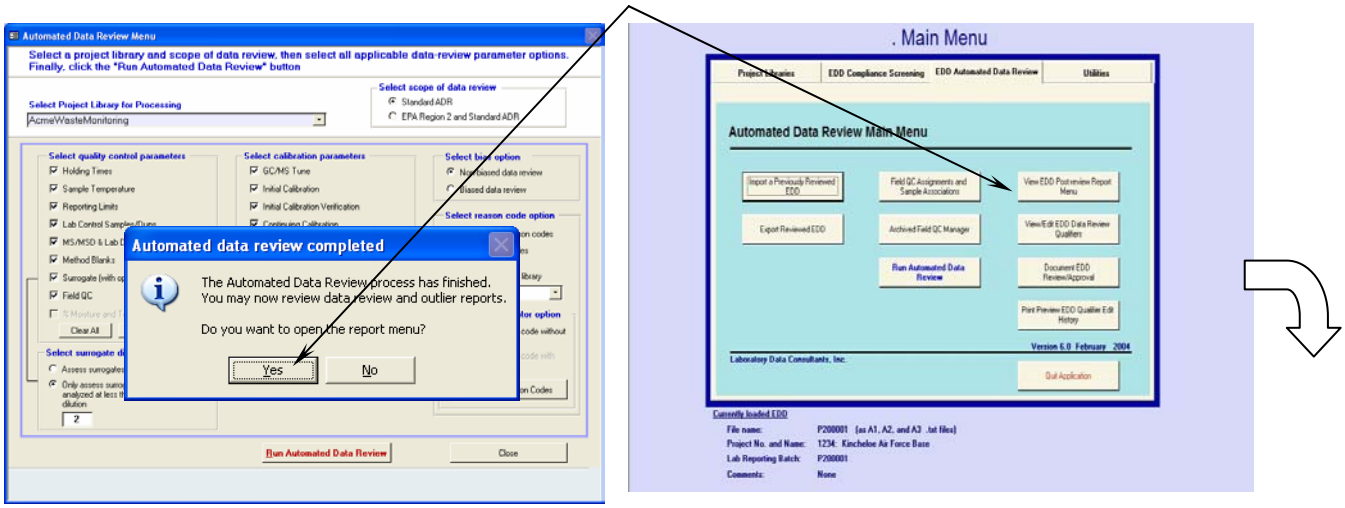


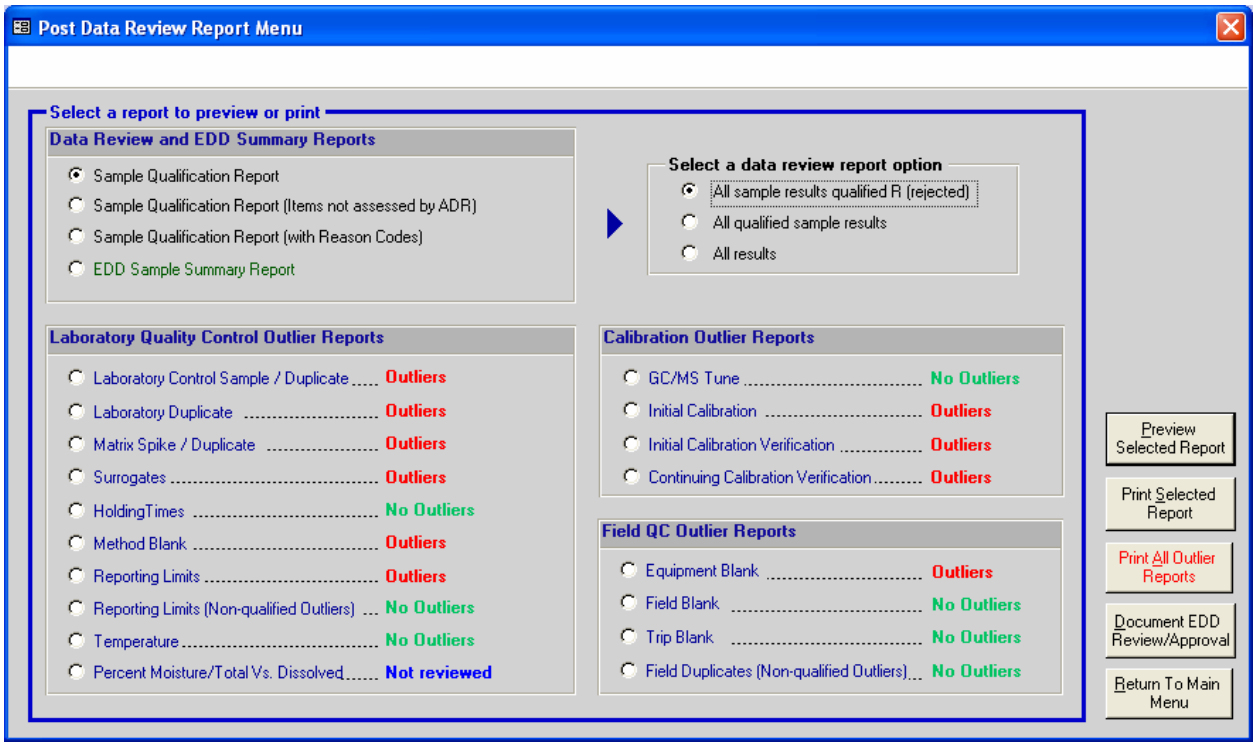
4.7 DATA REVIEW SUMMARY AND OUTLIER REPORTS

Once the automated data review process is finished, a pop-up window will appear. Click the Yes button on the pop-up window or alternatively, click the **View EDD Post Report Review Menu** button on the EDD Data Review Tab.

Figure 4-12

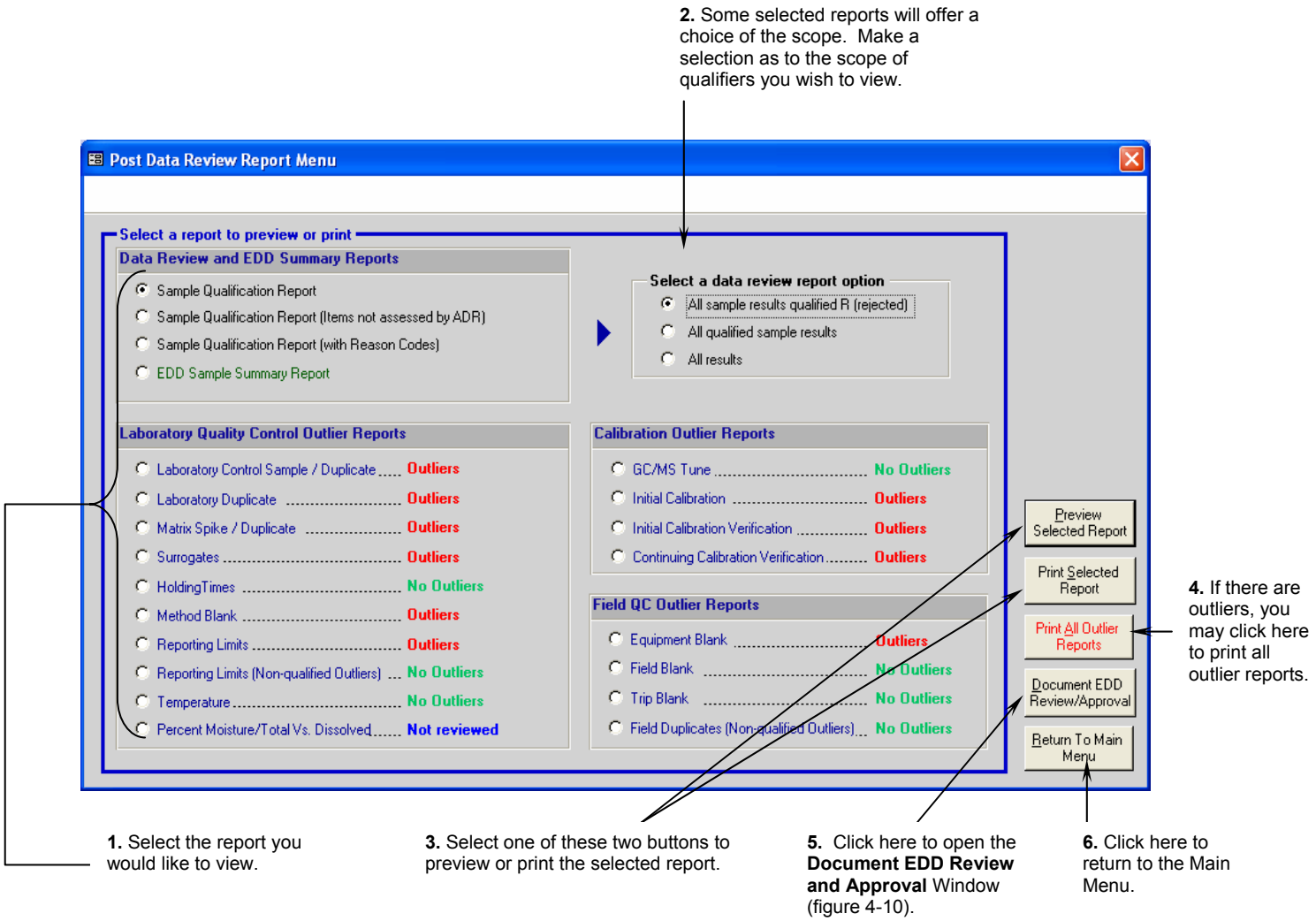
1. Click either of these buttons to open the **Report Menu** shown below.


Automated Data Review Menu
Select a project library and scope of data review, then select all applicable data-review parameter options.
Finally, click the "Run Automated Data Review" button
Automated data review completed
The Automated Data Review process has finished.
You may now review data review and outlier reports.
Do you want to open the report menu?
Yes
No
Run Automated Data Review
Close
. Main Menu
Automated Data Review Main Menu


Post Data Review Report Menu
Select a report to preview or print
Data Review and EDD Summary Reports
Sample Qualification Report
Sample Qualification Report (Items not assessed by ADR)
Sample Qualification Report (with Reason Codes)
EDD Sample Summary Report
Select a data review report option
All sample results qualified R (rejected)
All qualified sample results
All results
Laboratory Quality Control Outlier Reports
Laboratory Control Sample / Duplicate ..... Outliers
Laboratory Duplicate ..... Outliers
Matrix Spike / Duplicate ..... Outliers
Surrogates ..... Outliers
HoldingTimes ..... No Outliers
Method Blank ..... Outliers
Reporting Limits ..... Outliers
Reporting Limits (Non-qualified Outliers) ... No Outliers
Temperature ..... No Outliers
Percent Moisture/Total Vs. Dissolved ..... Not reviewed
Calibration Outlier Reports
GC/MS Tune ..... No Outliers
Initial Calibration ..... Outliers
Initial Calibration Verification ..... Outliers
Continuing Calibration Verification ..... Outliers
Field QC Outlier Reports
Equipment Blank ..... Outliers
Field Blank ..... No Outliers
Trip Blank ..... No Outliers
Field Duplicates (Non-qualified Outliers) ... No Outliers
Preview Selected Report
Print Selected Report
Print All Outlier Reports
Document EDD Review/Approval
Return To Main Menu

4.7.1 Report Menu Screen

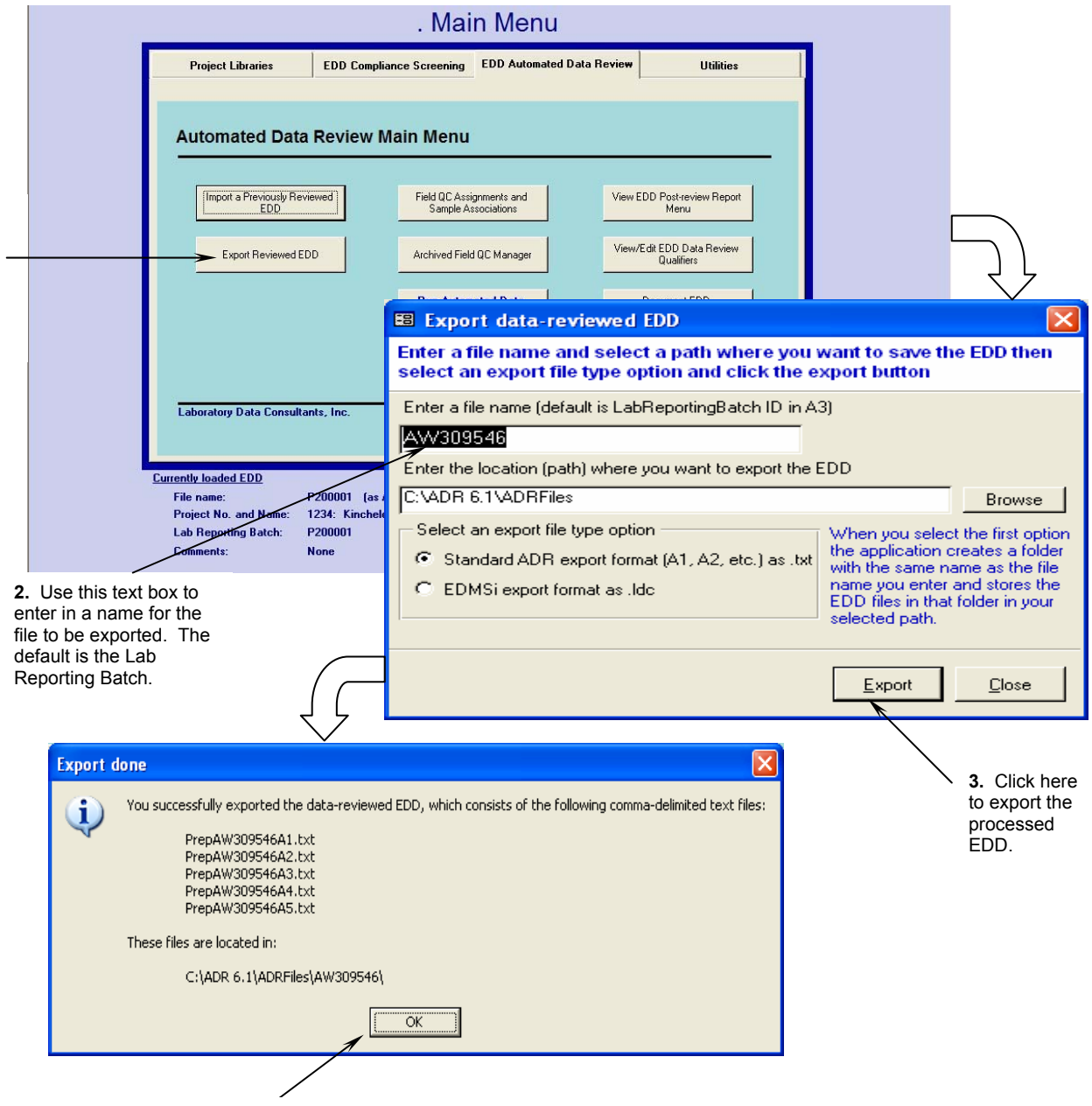
Figure 4-13


2. Some selected reports will offer a choice of the scope. Make a selection as to the scope of qualifiers you wish to view.
Post Data Review Report Menu
Select a report to preview or print
Data Review and EDD Summary Reports
Sample Qualification Report
Sample Qualification Report (Items not assessed by ADR)
Sample Qualification Report (with Reason Codes)
EDD Sample Summary Report
Select a data review report option
All sample results qualified R (rejected)
All qualified sample results
All results
Laboratory Quality Control Outlier Reports
Laboratory Control Sample / Duplicate ..... Outliers
Laboratory Duplicate ..... Outliers
Matrix Spike / Duplicate ..... Outliers
Surrogates ..... Outliers
HoldingTimes ..... No Outliers
Method Blank ..... Outliers
Reporting Limits ..... Outliers
Reporting Limits (Non-qualified Outliers) ... No Outliers
Temperature ..... No Outliers
Percent Moisture/Total Vs. Dissolved ..... Not reviewed
Calibration Outlier Reports
GC/MS Tune ..... No Outliers
Initial Calibration ..... Outliers
Initial Calibration Verification ..... Outliers
Continuing Calibration Verification ..... Outliers
Field QC Outlier Reports
Equipment Blank ..... Outliers
Field Blank ..... No Outliers
Trip Blank ..... No Outliers
Field Duplicates (Non-qualified Outliers) ... No Outliers
Preview Selected Report
Print Selected Report
Print All Outlier Reports
Document EDD Review/Approval
Return To Main Menu
4. If there are outliers, you may click here to print all outlier reports.
1. Select the report you would like to view.
3. Select one of these two buttons to preview or print the selected report.
5. Click here to open the Document EDD Review and Approval Window (figure 4-10).
6. Click here to return to the Main Menu.

4.8 EXPORTING PROCESSED EDD DATA FILES

The Export Reviewed EDD function exports the processed EDD as an text file so that it can be archived, imported into another user's application, or imported into a database. When the processed EDD is exported, three text files are created. The exported files are saved in the subdirectory called "ADRFiles", which is located in the 'parent' directory where the application resides. The naming convention for the files is to prefix the Lab Reporting Batch with "Prep" and give each file an alphanumeric suffix from 01-04 (ie: PrepSDGA1.txt).

Figure 4-14


. Main Menu
Project Libraries
EDD Compliance Screening
EDD Automated Data Review
Utilities
Automated Data Review Main Menu
Import a Previously Reviewed EDD
Field QC Assignments and Sample Associations
View EDD Post-review Report Menu
Export Reviewed EDD
Archived Field QC Manager
View/Edit EDD Data Review Qualifiers
Laboratory Data Consultants, Inc.
Currently loaded EDD
File name: P200001
Project No. and Name: 1234: Kinchel
Lab Reporting Batch: P200001
Comments: None
Export data-reviewed EDD
Enter a file name and select a path where you want to save the EDD then select an export file type option and click the export button
Enter a file name (default is LabReportingBatch ID in A3)
AW309546
Enter the location (path) where you want to export the EDD
C:\ADR 6.1\ADRFiles
Browse
Select an export file type option
Standard ADR export format (A1, A2, etc.) as .txt
EDMSi export format as .ldc
When you select the first option the application creates a folder with the same name as the file name you enter and stores the EDD files in that folder in your selected path.
Export
Close
Export done
You successfully exported the data-reviewed EDD, which consists of the following comma-delimited text files:
PrepAW309546A1.txt
PrepAW309546A2.txt
PrepAW309546A3.txt
PrepAW309546A4.txt
PrepAW309546A5.txt
These files are located in:
C:\ADR 6.1\ADRFiles\AW309546\
OK

2. Use this text box to enter in a name for the file to be exported. The default is the Lab Reporting Batch.

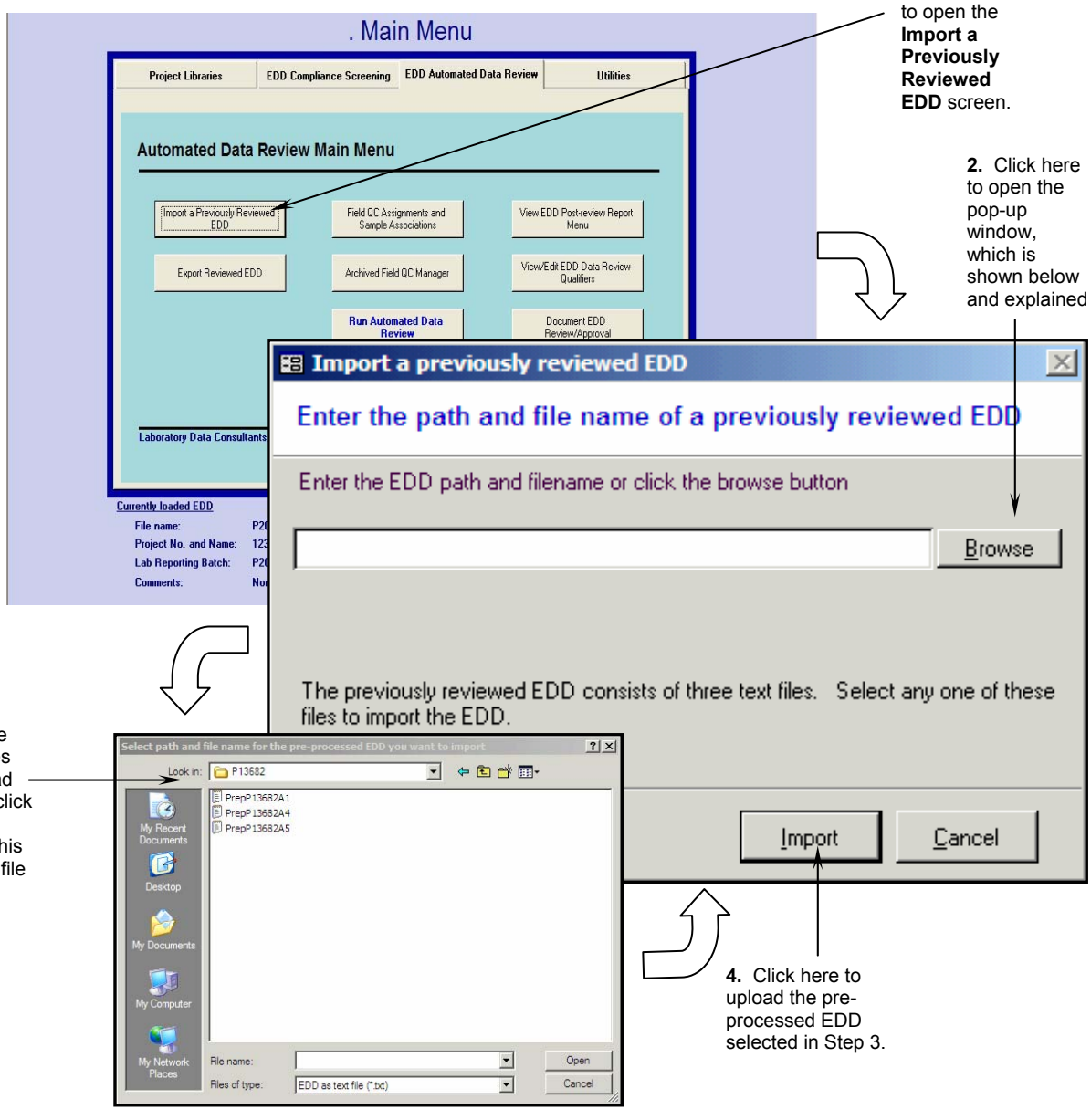
3. Click here to export the processed EDD.

4. After clicking on **Export**, this pop-up window will appear showing the names and location of the files that were exported. Click **OK** to return to the Main Menu.

4.9 IMPORTING PROCESSED EDD DATA FILES

The Import Previously Reviewed EDD function imports a previously processed EDD. ADaPT processed EDD's are created through the use of the Download utility explained in Figure 4-14. **(CAUTION: The incoming EDD will overwrite any changes or processing done to the EDD currently in the application. It is recommended that you first download a copy of the current EDD to preserve any changes or processing done.)**

Figure 4-15

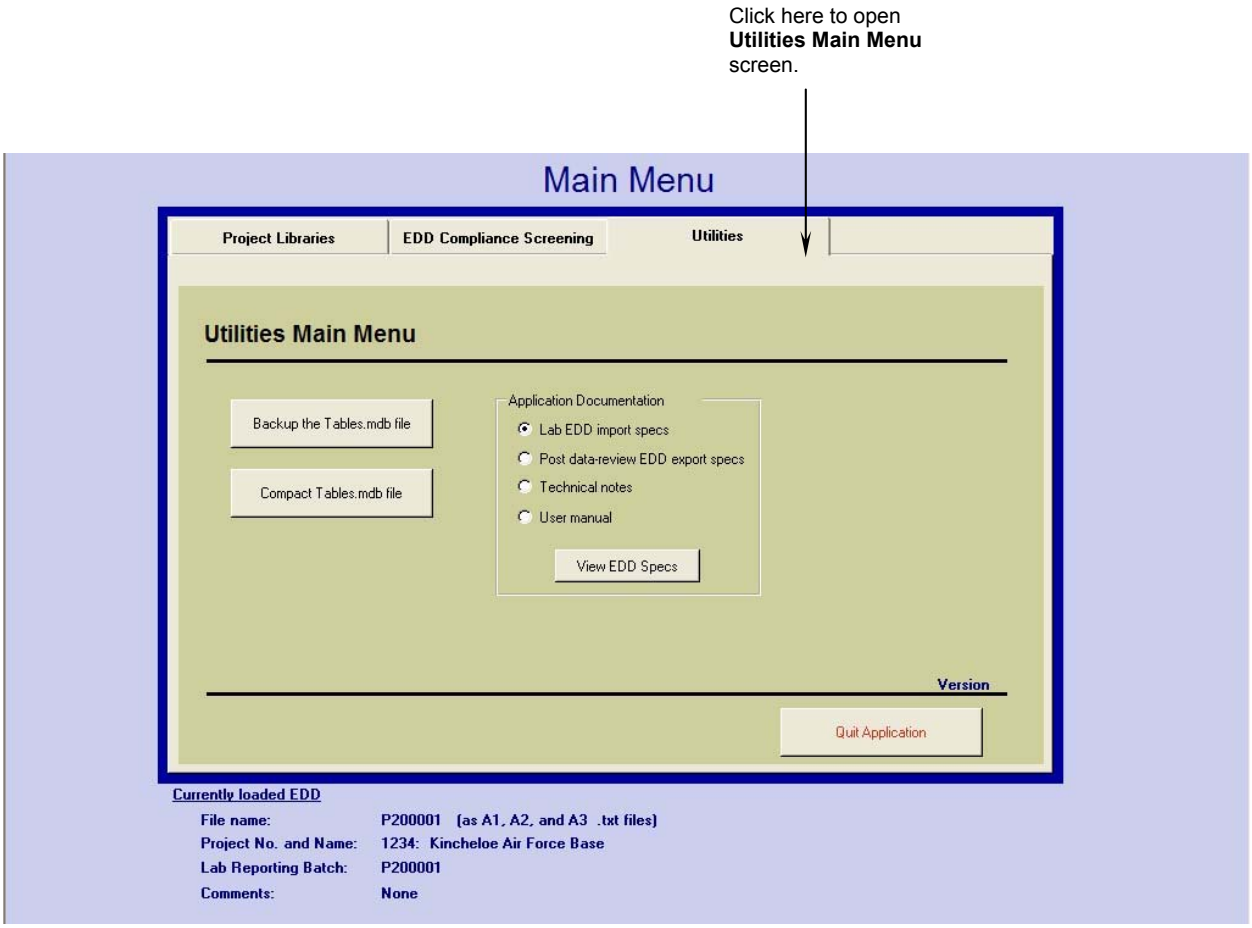

1. Click here to open the Import a Previously Reviewed EDD screen.
2. Click here to open the pop-up window, which is shown below and explained
3. Navigate to the location of the files you want to upload and then double click on any one of the files to upload. This action places the file name in the field noted in Step 2.
4. Click here to upload the pre-processed EDD selected in Step 3.
. Main Menu
Project Libraries
EDD Compliance Screening
EDD Automated Data Review
Utilities
Automated Data Review Main Menu
Import a Previously Reviewed EDD
Field QC Assignments and Sample Associations
View EDD Post-review Report Menu
Export Reviewed EDD
Archived Field QC Manager
View/Edit EDD Data Review Qualifiers
Run Automated Data Review
Document EDD Review/Approval
Laboratory Data Consultants
Currently loaded EDD
File name:
Project No. and Name:
Lab Reporting Batch:
Comments:
Import a previously reviewed EDD
Enter the path and file name of a previously reviewed EDD
Enter the EDD path and filename or click the browse button
Browse
The previously reviewed EDD consists of three text files. Select any one of these files to import the EDD.
Import
Cancel
Select path and file name for the pre-processed EDD you want to import
Look in:
P13682
PrepP13682A1
PrepP13682A4
PrepP13682A5
My Recent Documents
Desktop
My Documents
My Computer
My Network Places
File name:
Files of type:
EDD as text file (*.txt)
Open
Cancel

5.0
Utilities
Module

5.1 UTILITIES

Use the Utilities module to view the user manual and for maintaining the database.

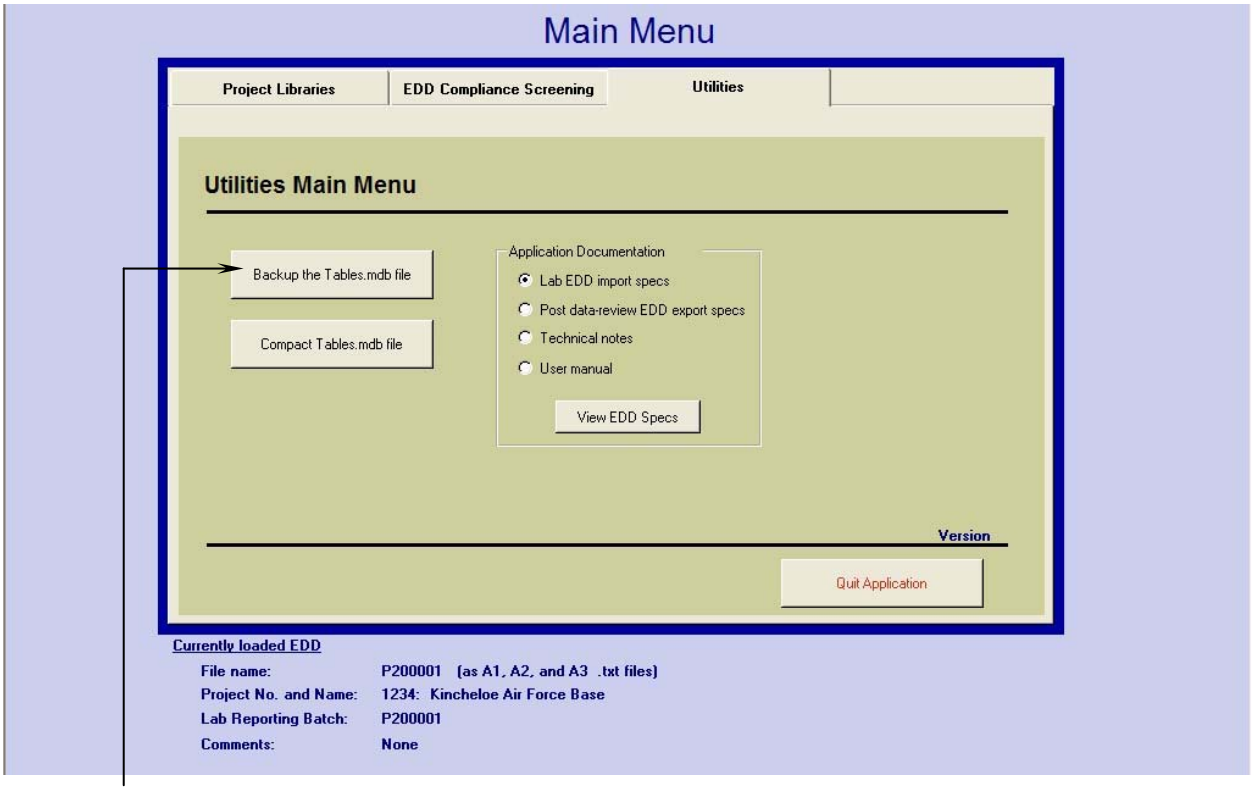
Figure 5-1
Utilities Main Menu Screen



5.2 BACKING UP THE DATABASE

The Backup Database utility creates a copy of the current Tables.mdb file and places it in the "LibraryFiles" subfolder with the date of backup appended to the file name. Backups should be done routinely to guard against possible corruption of the database.

Figure 5-2

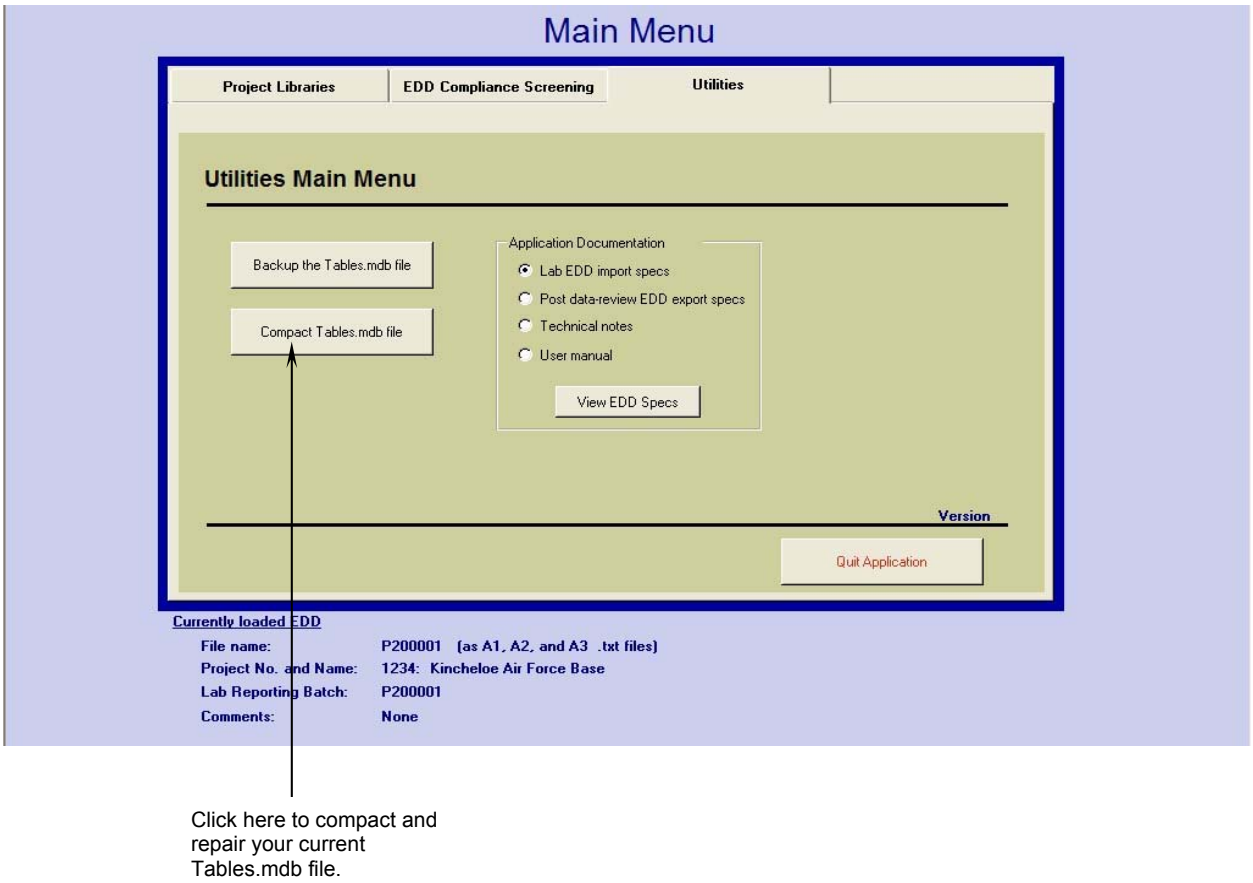


Click here to create a copy of your current Tables.mdb file.

5.3 COMPACTING THE DATABASE

The Compact Database utility actually does two things. It first creates a copy of the current Tables.mdb file and places it in the "LibraryFiles" subfolder with the date of compact included in the file name. It then compacts the Tables.mdb file by freeing up unused disk space that may have been set aside for the database. If the compacted database is not corrupted, it will then replace the working database with the compacted one. If the compacted database is corrupted, a pop-up screen will appear warning the user.

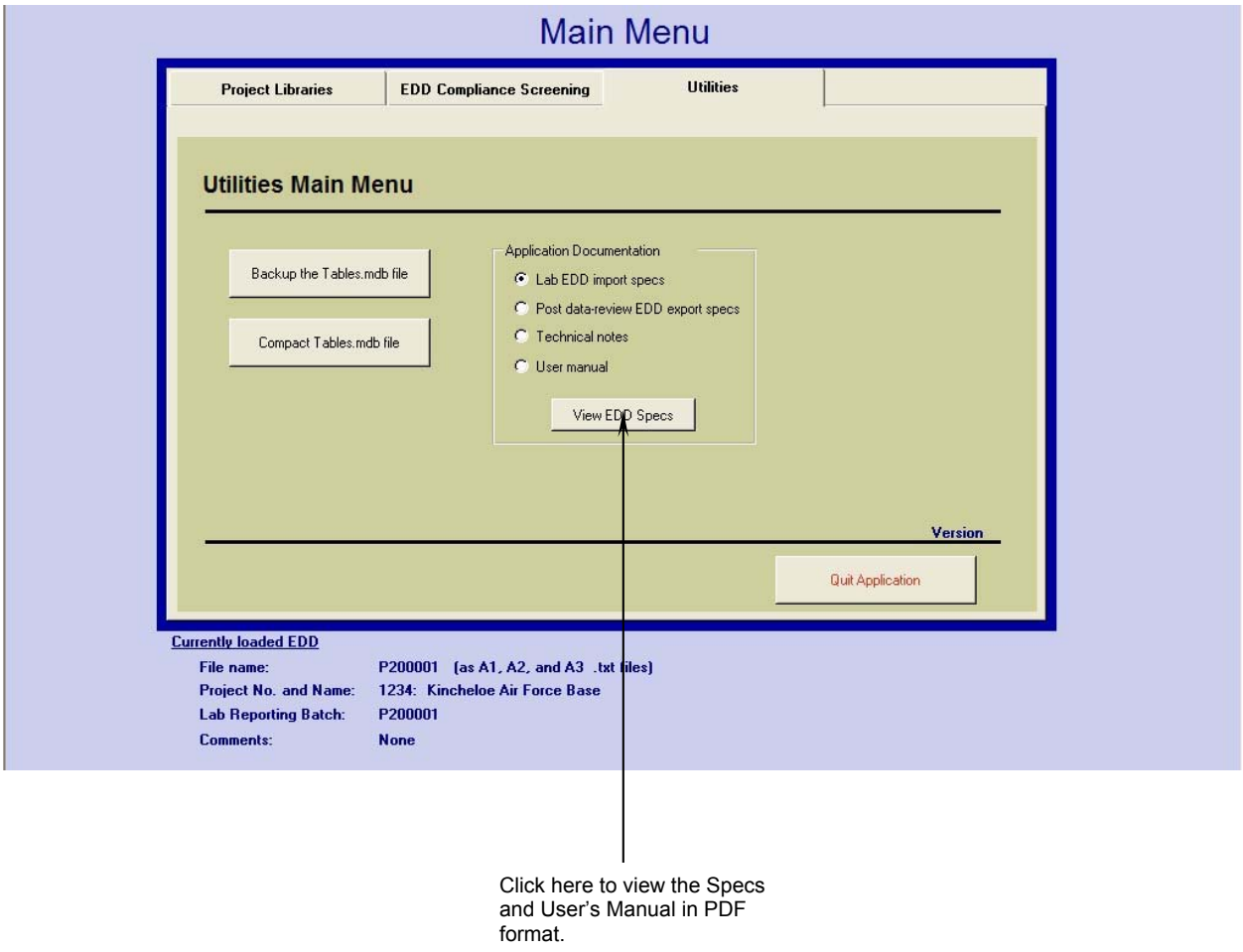
Figure 5-3



5.4 APPLICATION DOCUMENTATION

The User's Manual can be viewed by clicking on the **View User Manual** button in the Utilities Main Menu.

Figure 5-4



Appendix A

APPENDIX A

Electronic Data Deliverable Specifications

The EDD consists of three separate, comma-delimited ASCII text files (two, if instrument calibration information is not required by the project). Each file follows the naming convention of using the Laboratory Reporting Batch ID followed by the table identifier (A1, A2, or A3), and then a ".txt" extension. For example, if a laboratory reporting batch is identified as SDG001 and instrument calibration is included in the EDD, the file names for this EDD would be:

SDG001A1.txt
SDG001A2.txt (included only if instrument calibration is required by the project)
SDG001A3.txt

Each file corresponds to a database table. Uploading the EDD places the contents of each file into its corresponding database table. The tables are identified as the Analytical Results Table (A1), Laboratory Instrument Table (A2), and Sample Analysis Table (A3). After uploading the EDD, you can view the contents of each file (table) in the CCS/EDD Upload Main Menu.

Analytical Results Table (A1 File in the EDD)

The Analytical Results table contains analytical test result records for client samples and quality control samples (excluding calibrations and tunes). For every sample analyzed by a particular method a result record must exist for each analyte and surrogate (if applicable) required by that method (specified in the project library). For laboratory control samples and matrix spikes, a result record must exist for every spiked analyte and surrogate (if applicable) specified in the project library.

Laboratory Instrument Table (A2 File in the EDD)

The Laboratory Instrument table contains records related to instrument tuning (GC/MS only) and initial and continuing calibration (all methods). For each calibration sample a record must exist for each target analyte reported in a method (specified in the project library). Initial calibrations and initial calibration verifications are linked to associated samples using a unique Run Batch ID. Continuing calibrations are linked to associated samples using a unique Analysis Batch ID. GC/MS tunes are linked to initial and continuing calibrations (and hence samples) using the Run Batch and Analysis Batch IDs respectively. Depending on the level of validation required by the client, the Laboratory Instrument table may not be requested in the EDD. If the Laboratory Instrument table is not included in the EDD, the application will still create an A2 file when you download the EDD; however, this file will contain no information and will not be used in the CCS process.

Sample Analysis Table (A3 File in the EDD)

The Sample Analysis table contains information related to sample and QC analyses (excluding calibrations and tunes). A record exists for each sample/method/matrix/analysis type combination. The Sample Analysis table also contains information for date and time; QC batch association, dilution and moisture content (if applicable).

EDD Field Elements

The name, description, data type, length, and standard values (if required) assigned to the fields in each table are listed in Appendix A. Some fields can only contain a restricted set of information called standard values. Appendix B lists the field names and standard values these fields can hold. Certain fields in each table require information for a given combination of sample, matrix, method, analyte type, and calibration or QC type records. These are referred to as required fields. Appendix C indicates the required fields for each table according to the instrument category (method), matrix, analyte type, sample, and QC or calibration type record. CCS checks that required fields are populated.

Appendix A1
Field Descriptions for the Analytical Results Table (Table A1)

Contains laboratory test results and related information for field and QC samples (excluding calibrations) on an analyte level.

Field Name	Field Name Description	Field Type	Field Length	Standard Value List
ClientSampleID	Client's identifier for a sample, this should be taken directly from the Chain of Custody If a sample is analyzed as a duplicate, matrix spike, or matrix spike duplicate, append suffixes DUP, MS and MSD respectively to the ClientSampleID with no intervening spaces or hyphens (i.e. MW01DUP, MW01MS, and MW01MSD). Parent sample records must exist for each MS and MSD. If an MS/MSD is shared between two EDDs, records for the MS/MSD and its parent sample must exist in both EDDs. For the Method Blanks, LCS, and LCSD enter the unique LaboratorySampleID. Do not append suffixes for dilutions, reanalysis, or re-extracts (the AnalysisType field is used for this distinction). For example, MW01DL and MW01RE are not allowed.	Text	25	No
LabAnalysisRefMethodID	Laboratory reference method (i.e., 8260B, 8270C, 6010B, 6010B-Cr, etc.) The LabAnalysisRefMethodID is specified in the project library which should be developed by/or in conjuction with the client.	Text	25	Yes
AnalysisType	Defines the analysis type (i.e., Dilution, Reanalysis, etc.). This field is critical for distinguishing results for the same compound when multiple analyses are submitted for the same sample and method (i.e. dilutions, re-extracts, etc). This field is analogous with run number.	Text	10	Yes
LabSampleID	Laboratory tracking number for field samples and lab generated QC samples such as method blank, LCS, and LCSD. Suffixes may be applied to the LabSampleID to designate dilutions, reanalysis, etc. The LabSampleID must be unique for each Method Blank, LCS, and LCSD.	Text	25	
LabID	Identification of the laboratory performing the analyses	Text	7	
ClientAnalyteID	CAS # or unique client identification. If a CAS # is not available, use a unique identifier provided by the client. For TICs from GC/MS analyses, enter retention time in decimal minutes as the ClientAnalyteID. The ClientAnalyteID for a particular target analyte is specified in the project library. Each sample must have the full target list reported. This may be done through multiple runs (i.e. The original run reports all compounds except 1 due to high concentration. The diluted run only reports the 1 analyte not reported from the initial analysis). *NOTE*- Each sample analysis must report all surrogates. For spiked QC (i.e. MS, LCS) only report the spike compounds (and surrogates if applicable).	Text	12	Yes
AnalyteName	Chemical name for the analyte (i.e., Benzene, Lead) The AnalyteName is specified in the project library.	Text	60	Yes
Result	Result value for the analyte. Entries must be numeric. For non-detects of target analytes and spikes, do not enter “ND” or leave this field blank. If an analyte or	Number	10	

Appendix A1
Field Descriptions for the Analytical Results Table (Table A1)

Contains laboratory test results and related information for field and QC samples (excluding calibrations) on an analyte level.

Field Name	Field Name Description	Field Type	Field Length	Standard Value List
	spike was not detected, enter the value fro the ReportingLimit field (see below).			
ResultUnits	Units for Result (i.e., mg/Kg, ug/L, etc.) The result units to be reported for each target analyte and matrix in a given method are specified in the project library.	Text	10	Yes
LabQualifiers	A string of single letter result qualifiers assigned by the lab based on client-defined rules and values. The "U" Lab Qualifier must be entered for all non-detects. Other pertinent lab qualifiers may be entered with the "U" qualifier.	Text	7	Yes
DetectionLimit	The detection limit value for the analyte being measured	Number	10	
DetectionLimitType	Specifies the type of detection limit (i.e., MDL, IDL, etc.)	Text	10	Yes
RetentionTime	The time expressed in decimal minutes between injection and detection, neccessary for GC/MS TICs only.	Number	4	
AnalyteType	Defines the type of result such as surrogate, spike, internal standard, and target compound. For spiked QC (i.e. MS, LCS) only compounds that were actually spiked should have the value SPK, if the full target list is reported, but not all spiked, the non-spiked compounds should have a value of TRG.	Text	7	Yes
PercentRecovery	The percent recovery value of a spike or surrogate compound. Enter the recovery value as a numeric character. The % Recovery must match the hard copy report. If the spike or surrogate was not recovered because of dilution, enter “DIL”. If a spike or surrogate was not recovered because of matrix interference, enter “INT”. If a spike or surrogate was not recovered because it was not added to the sample, enter “NS”.	Number	4	
RelativePercentDifference	The relative percent difference (RPD) of two QC results such as MS/MSD, LCS/LCSD, and sample duplicates. Report RPD in the Sample Duplicate, LCSD, and MSD records only.	Number	4	
ReportingLimit	Reporting limit (RL) value for the measured analyte. Factor in the dilution factor (including any preparation dilutions) and percent moisture correction, if applicable. The Reporting Limit for each analyte and matrix in a given method is specified in the project library. The laboratory RL reported in the EDD must be less than or equal to the value in the library.	Number	10	
ReportingLimitType	Specifies the type of reporting limit (i.e., CRQL, PQL, SQL, RDL, etc). The Reporting Limit Type for each method and matrix is specified in the project library.	Text	10	Yes

Appendix A1
Field Descriptions for the Analytical Results Table (Table A1)

Contains laboratory test results and related information for field and QC samples (excluding calibrations) on an analyte level.

Field Name	Field Name Description	Field Type	Field Length	Standard Value List
ReportableResult	This field indicates whether or not the laboratory chooses an individual analyte result as reportable. Enter "YES" if the result is reportable. Enter "NO" if the result is not reportable (the best result). If only one analysis is submitted for a particular sample and method, enter "YES" for all target compounds (Analyte Type = TRG) and all TICs (Analyte Type = TIC, for GC/MS only). If two or more analyses are submitted for a particular sample and method (i.e. initial analysis, reanalysis and/or dilutions), enter "YES" from only <u>one</u> of the analyses for each target compound. For example: a sample was run a second time at dilution because benzene exceeded the calibration range in the initial, undiluted analysis. All target analytes are reported in each analysis. For the initial analysis, enter "NO" for benzene and enter "YES" for all other compounds. For the diluted analysis enter "YES" for benzene and enter "NO" for all other compounds. For TICs (Analyte Type = TIC), if more than one analysis is submitted for a particular sample and method, choose only one of the analyses where Reportable Result = YES for <u>all</u> TICs. For example, a sample was run a second time because one or more target compounds exceeded the calibration range in the undiluted analysis. Choose a particular analysis and enter "YES" for all TICS. In the other analysis enter "NO" for all TICs.	Text	3	Yes

Appendix A2
Field Descriptions for the Laboratory Instrument Table (Table A2)

Contains information related to tuning and calibration of laboratory instruments on an analyte basis

Field Name	Field Name Description	Field Type	Field Length	Standard Value List
InstrumentID	Laboratory instrument identification	Text	15	
QCType	Type of instrument QC (i.e., Instrument_Performance_Check or type of calibration standard)	Text	10	Yes
Analyzed	Analysis date/time for BFB, DFTPP, initial calibration verification standards, calibration verification standards, and continuing calibration standards. For the initial calibration, enter date and time of the last standard analyzed. Also, see comments about initial calibrations in the AlternateLabAnalysisID field name description.	Date/ Time	16*	
AlternateLabAnalysisID	Common laboratory identification used for standards (i.e., VOA STD50, CCAL100, BFB50, etc). For initial calibration, enter ICAL. Information from the initial calibration is entered as one record for each analyte that summarizes the results of the initial calibration (i.e. %RSD, correlation coefficient, and avg RF). Records are not entered for each individual standard within the initial calibration.	Text	12	
LabAnalysisID	Unique identification of the raw data electronic file associated with the calibration standard or tunes (i.e., 9812101MS.DV). Leave this field blank for the initial calibration. See comments about initial calibrations in the Alternate_Lab_Analysis_ID field description. This field is only applicable where an electronic instrument file is created as part of the analysis.	Text	15	
LabAnalysisRefMethodID	Laboratory reference method (i.e. 8260B, 8270C, 6010B, 6010B-Cr, etc.). The Lab Analysis Ref Method ID is specified in the project.	Text	25	Yes
ClientAnalyteID	CAS # or unique client identification. If CAS # is not available, use a unique identifier provided by the client. Records for each calibration must report the full target analyte list including surrogates as applicable. The target analyte list is specified for each method in the project library.	Text	12	Yes
AnalyteName	Chemical name for the analyte (i.e., Benzene, Lead). The Analyte Name for each method is specified in the project library.	Text	60	Yes
RunBatch	Unique identifier for a batch of analyses performed on one instrument under the control of one initial calibration and initial calibration verification. The RunBatchID links both the initial calibration and initial calibration verification to subsequently analyzed and associated continuing calibrations, field samples, and QC analyses. For GC/MS methods, the RunBatch ID also links a BFB or DFTPP tune. A new and unique RunBatchID must used with every new initial calibration.	Text	12	

Appendix A2
Field Descriptions for the Laboratory Instrument Table (Table A2)

Contains information related to tuning and calibration of laboratory instruments on an analyte basis

Field Name	Field Name Description	Field Type	Field Length	Standard Value List
AnalysisBatch	Unique laboratory identifier for a batch of analyses performed on one instrument and under the control of a continuing calibration or continuing calibration verification. The AnalysisBatchID links the continuing calibration or calibration verification to subsequently analyzed and associated field sample and QC analyses. For GC/MS methods, the Analysis Batch ID also links the BFB or DFTPP tune. A new and unique Analysis Batch ID must be used with every new continuing calibration or continuing calibration verification. For GC methods, only report opening standards, do not include closing standards (unless the closing standard functions as the opening standard for a subsequent set of analyses, in which case a new and unique AnalysisBatchID is assigned). When dual or confirmation columns/detectors are used, enter results from the primary column/detector only (this is similar to CLP Pesticide reporting).	Text	12	
LabReportingBatch	Unique laboratory identifier for a batch of samples including associated calibrations and method QC, reported as a group by the lab (i.e. lab work order #, log-in #, or SDG). Links all instrument calibrations, samples, and method QC reported as a group or SDG.	Text	12	
PercentRelativeStandard Deviation	The standard deviation as a percentage of the mean used to evaluate initial calibration linearity. Organic methods may use either %RSD or Correlation Coefficient. If applicable, enter the %RSD. Leave this field blank if the Correlation Coefficient is used.	Number	5	
CorrelationCoefficient	The correlation coefficient resulting from linear regression of the initial calibration. For metals by ICAP, enter '1.0' if a two-point initial calibration was analyzed. Organic methods may use either %RSD or Correlation Coefficient. If applicable, enter the Correlation Coefficient. Leave this field blank if the %RSD is used	Number	5	
RelativeResponseFactor	This field applies to GC/MS only. For continuing calibration enter the relative response factor. For initial calibration enter the <u>average</u> relative response factor. Refer to comments about initial calibration records in the field description for AlternateLabAnalysisID.	Number	5	
PercentDifference (or Percent Recovery)	For organic methods, this field is the difference between 2 measured values expressed as a percentage. If %RSD is reported, enter the % difference between the average response factor of the initial calibration (IC) and the response factor of the initial calibration verification (ICV) or continuing calibration (CCV). If correlation coefficient is used, enter the % difference between the true value and the measured value. The PercentDifference is expressed as a negative or positive value. Do not express PercentDifference as an absolute value. **Use a**	Number	5	

Appendix A2
Field Descriptions for the Laboratory Instrument Table (Table A2)

Contains information related to tuning and calibration of laboratory instruments on an analyte basis

Field Name	Field Name Description	Field Type	Field Length	Standard Value List
	negative value if the CCV or ICV response factor is less than the IC average response factor or, in the case of correlation coefficient, the CCV or ICV measured value is less than the true value. Use a positive value if the CCV or ICV response factor is greater than the IC average response factor, or in the case of correlation coefficient, the CCV or ICV measured value is greater than the true value. For inorganic methods, this field is the recovery of an analyte expressed as a percentage of the true amount (i.e., %R for a metal in the continuing calibration or initial calibration verification by Method 6010B).			
Peak_ID_01	Identifies individual ions for GC/MS tuning compounds (i.e., BFB, DFTPP). For BFB, m/z = 50; For DFTPP, m/z = 51	Number	10	
Percent_Ratio_01	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_01	Number	10	
Peak_ID_02	Identifies individual ions for GC/MS tuning compounds (i.e., BFB, DFTPP). For BFB, m/z = 75; For DFTPP, m/z = 68	Number	10	
Percent_Ratio_02	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_02.	Number	10	
Peak_ID_03	Identifies individual ions for GC/MS tuning compounds (i.e., BFB, DFTPP). For BFB, m/z = 95; For DFTPP, m/z = 69	Number	10	
Percent_Ratio_03	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_03.	Number	10	
Peak_ID_04	Identifies individual ions for GC/MS tuning compounds (i.e., BFB, DFTPP). For BFB, m/z = 96 For DFTPP, m/z = 70	Number	10	
Percent_Ratio_04	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_04.	Number	10	
Peak_ID_05	Identifies individual ions for GC/MS tuning compounds (I.e., BFB, DFTPP). For BFB, m/z = 173; For DFTPP, m/z = 127	Number	10	
Percent_Ratio_05	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_05.	Number	10	
Peak_ID_06	Identifies individual ions for GC/MS tuning compounds (i.e., BFB, DFTPP). For BFB, m/z = 174; For DFTPP, m/z = 197	Number	10	
Percent_Ratio_06	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_06.	Number	10	
Peak_ID_07	Identifies individual ions for GC/MS tuning compounds (i.e., BFB, DFTPP). For BFB, m/z = 175; For DFTPP, m/z = 198	Number	10	
Percent_Ratio_07	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_07.	Number	10	
Peak_ID_08	Identifies individual ions for GC/MS tuning compounds (i.e., BFB, DFTPP). For BFB, m/z = 176; For DFTPP, m/z = 199	Number	10	
Percent_Ratio_08	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_08.	Number	10	

Appendix A2
Field Descriptions for the Laboratory Instrument Table (Table A2)

Contains information related to tuning and calibration of laboratory instruments on an analyte basis

Field Name	Field Name Description	Field Type	Field Length	Standard Value List
Peak_ID_09	Identifies individual ions for GC/MS tuning compounds (i.e., BFB, DFTPP). For BFB, m/z = 177; For DFTPP, m/z = 275	Number	10	
Percent_Ratio_09	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_09.	Number	10	
Peak_ID_10	Identifies individual ions for GC/MS tuning compounds (i.e., DFTPP). For DFTPP, m/z = 365	Number	10	
Percent_Ratio_10	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_10.	Number	10	
Peak_ID_11	Identifies individual ions for GC/MS tuning compounds (i.e., DFTPP). For DFTPP, m/z = 441	Number	10	
Percent_Ratio_11	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_11.	Number	10	
Peak_ID_12	Identifies individual ions for GC/MS tuning compounds (i.e., DFTPP). For DFTPP, m/z = 442	Number	10	
Percent_Ratio_12	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_12.	Number	10	
Peak_ID_13	Identifies individual ions for GC/MS tuning compounds (i.e., DFTPP). For DFTPP, m/z = 443	Number	10	
Percent_Ratio_13	Ion abundance ratios of the GC/MS tuning compounds reported as a percentage. Linked to an individual Peak_ID_13.	Number	10	

* Date/time format is: MM/DD/YYYY hh:mm where MM = month, DD = day, YYYY = year, hh = hour in 24 hour format, and mm = minutes.

Appendix A3
Field Description for the Sample Analysis Table (A3)

Contains information related to laboratory sample and QC analyses (excluding calibrations and tunes), analytical methods, batching information, and sample preparation

Field Name	Field Name Description	Field Type	Field Length	Standard Value List
ProjectNumber	Project number assigned by the client	Text	30	Yes
ProjectName	Project name assigned by the client	Text	90	Yes
ClientSampleID	Client's identifier for a sample, this should be taken directly from the Chain of Custody If a sample is analyzed as a duplicate, matrix spike, or matrix spike duplicate, append suffixes DUP, MS and MSD respectively to the ClientSampleID with no intervening spaces or hyphens (i.e. MW01DUP, MW01MS, and MW01MSD). Parent sample records must exist for each MS and MSD. If an MS/MSD is shared between two EDDs, records for the MS/MSD and its parent sample must exist in both EDDs. For the Method Blanks, LCS, and LCSD enter the unique LaboratorySampleID. Do not append suffixes for dilutions, reanalysis, or re-extracts (the AnalysisType field is used for this distinction). For example, MW01DL and MW01RE are not allowed.	Text	25	
Collected	Date/Time of sample collection Leave this field blank for Method Blank, LCS, and LCSD.	Date/ Time	16*	
MatrixID	Sample matrix (i.e., AQ, SO, etc.)	Text	10	Yes
LabSampleID	Laboratory tracking number for field samples and lab generated QC samples such as method blank, LCS, and LCSD. Suffixes may be applied to the Lab_Sample_ID to designate dilutions, reanalysis, etc. The Lab_Sample_ID must be unique for each Method Blank, LCS, and LCSD.	Text	25	
QCType	This record identifies the type of quality control sample QC (i.e., Duplicate, LCS, Method Blank, MS, or MSD). For regular samples, leave this field blank. Each Method Batch must contain records for a matrix spike for inorganic methods, and a matrix spike and matrix spike duplicate for organic methods.	Text	7	Yes
ShippingBatchID	Unique identifier assigned to a cooler or shipping container used to transport client or field samples. Links all samples to a cooler or shipping container. Leave blank for method blanks, LCS, and LCSD.	Text	25	
Temperature	Temperature (in centigrade degrees) of the cooler as received.	Number	4	
LabAnalysisRefMethodID	Laboratory reference method (i.e. 8260B, 8270C, 6010B, 6010B-Cr, etc.). The Lab Analysis Ref Method ID is specified in the project library.	Text	25	Yes
PreparationType	Preparation Method Number (i.e. 3010A, 3510C, 3550C, 5030B, etc.) For methods that do not have a specific preparation method number, use “Gen Prep”.	Text	25	Yes

Appendix A3
Field Description for the Sample Analysis Table (A3)

Contains information related to laboratory sample and QC analyses (excluding calibrations and tunes), analytical methods, batching information, and sample preparation

Field Name	Field Name Description	Field Type	Field Length	Standard Value List
AnalysisType	Defines the analysis type (i.e., Dilution, Reanalysis, etc.). This field is critical for distinguishing results for the same compound when multiple analyses are submitted for the same sample and method (i.e. dilutions, re-extracts, etc). This field is analogous with run number.	Text	10	Yes
Prepared	Preparation date/time	Date/ Time	16*	
Analyzed	Date and time of analysis	Date/ Time	16*	
LabID	Identification of the laboratory performing the analysis	Text	7	
QCLevel	Level of analytical laboratory QC associated with the analysis (i.e., Certificate of Analysis)	Text	10	Yes
ResultBasis	Wet or dry weight	Text	3	Yes
TotalOrDissolved	This field indicates if the results related to this sample and method are expressed as total or dissolved. This field is applicable to samples analyzed for metals.	Text	3	Yes
Dilution	Overall dilution of the sample aliquot. A value of one corresponds to nominal method conditions. Insert value of one for blanks, LCS, and LCSD.	Number	4	
HandlingType	Type of leaching procedure (i.e., SPLP,TCLP, WET).	Text	10	Yes
HandlingBatch	Unique laboratory identifier for a batch of samples prepared together for a leaching procedure (i.e., SPLP, TCLP, or WET preparation). Links samples with leaching blanks.	Text	12	
LeachateDate	Leachate date (i.e., date for SPLP, TCLP, or WET preparation)	Date /Time	16*	
PercentMoisture	Percent of sample composed of water. Enter for soil and sediment samples only.	Number	4	
MethodBatch	Unique laboratory identifier for a batch of samples of similar matrices analyzed by one method and treated as a group for field QC purposes. Links the matrix spike and/or matrix spike duplicate or laboratory duplicates to associated samples. *Note* the MethodBatch association does not have to coincide with the PreparationBatch association. The MethodBatch is specifically used to link the MS/MSD and/or DUP to associated samples.	Text	25	
PreparationBatch	Unique laboratory identifier for a batch of sample aliquots prepared together for analysis by one method. Links samples with method blanks and laboratory control samples. *Note* the PreparationBatch association does not have to coincide with the MethodBatch association. The PreparationBatch is specifically used to link the Method Blank and LCS to associated samples.	Text	25	

Appendix A3
Field Description for the Sample Analysis Table (A3)

Contains information related to laboratory sample and QC analyses (excluding calibrations and tunes), analytical methods, batching information, and sample preparation

Field Name	Field Name Description	Field Type	Field Length	Standard Value List
RunBatch	Unique identifier for a batch of analyses performed on one instrument under the control of one initial calibration and initial calibration verification. The Run Batch ID links both the initial calibration and initial calibration verification to subsequently analyzed and associated continuing calibrations, field samples, and QC analyses. For GC/MS methods, the Run_Batch ID also links a BFB or DFTPP tune. A new and unique Run Batch ID must used with every new initial calibration. The identifier entered in this field links a particular sample/method/analysis type record to a set of associated initial calibration and initial calibration verification records from Table A2.	Text	25	
AnalysisBatch	Unique laboratory identifier for a batch of analyses performed on one instrument and under the control of a continuing calibration or continuing calibration verification. The Analysis Batch ID links the continuing calibration or calibration verification to subsequently analyzed and associated field sample and QC analyses. For GC/MS methods, the Analysis Batch ID also links the BFB or DFTPP tune. A new and unique Analysis Batch ID must be used with every new continuing calibration or continuing calibration verification. The identifier entered in this field links a particular sample/method/analysis type record to a set of associated continuing calibration records from Table A2.	Text	25	
LabReportingBatch	Unique laboratory identifier for a batch of samples including associated calibrations and method QC, reported as a group by the lab (i.e. lab work order #, log-in #, or SDG). Links all instrument calibrations, samples, and method QC reported as a group or SDG.	Text	12	
LabReceipt	Date the sample was received in the lab	Date/ Time	16*	
LabReported	Date the hardcopy data were reported by the lab	Date/ Time	16*	

* Date/time format is: MM/DD/YYYY hh:mm where MM = month, DD = day, YYYY = four digits of the year, hh = hour in 24 hour format, and mm = minutes.

Appendix B

Appendix B Standard Value List (SVL)

Field Name	Standard Value	Standard Value Description
Analysis_Type*	DL	Dilution of the original sample
	DL2	Second dilution of the original sample
	DL3	Third dilution of the original sample
	DL4	Fourth dilution of the original sample
	RE	Reanalysis/reextraction of sample
	RE2	Second reanalysis/reextraction of sample
	RE3	Third reanalysis/reextraction of sample
	RE4	Fourth reanalysis/reextraction of the original sample
	RES	The initial or original sample.
Analyte_Name*	Refer to Project Library	Refer to Project Library
Analyte_Type⊗	IS	Internal standard as defined per CLP usage
	SPK	Spiked analyte
	SURR	Surrogate as defined as per CLP usage
	TIC	Tentatively identified compound for GC/MS analysis
	TRG	Target compound
Client_Analyte_ID*	Refer to Project Library	Refer to Project Library
Detection_Limit_Type*	CRDL	Contract required detection limit
	IDL	Instrument detection limit
	MDA	Minimum detectable activity
	MDL	Method detection limit
Handling_Type*	WET	Wet leaching procedure
	SPLP	Synthetic Precipitation Leaching Procedure
	TCLP	Toxicity Characteristic Leaching Procedure
Lab_Analysis_Ref_Method_ID*	Refer to Project Library	Refer to Project Library
Lab_Qualifiers*	*	INORG: Duplicate analysis was not within control limits
	*	ORG: Surrogate values outside of contract required QC limits
	+	INORG: Correlation coefficient for the method of standard additions (MSA) was less than 0.995
	A	ORG: Tentatively identified compound (TIC) was a suspected aldol-condensation product
	B	INORG:Value less than contract required detection limit but greater than or equal to instrument detection limit
	B	ORG: Compound is found in the associated blank as well as in the sample
	C	ORG: Analyte presence confirmed by GC/MS
	D	Result from an analysis at a secondary dilution factor
	E	INORG: Reported value was estimated because of the presence of interference
	E	ORG: Concentrations exceed the calibration range of the instrument
	H	Analysis performed outside method or client-specified holding time requirement
	J	Estimated value
	M	INORG: Duplicate injection precision was not met
	N	INORG: Spiked sample recovery was not within control limits
	N	ORG: Presumptive evidence of a compound
	P	ORG: Difference between results from two GC columns unacceptable (>25% Difference)
	S	Reported value was determined by the method of standard additions (MSA)
	U	Compound was analyzed for but not detected. Analyte result was below the Reporting_Limit_Type.
	W	INORG: Post digestion spike was out of control limits
	X	Reserved for a lab-defined data qualifier
	Y	Reserved for a lab-defined data qualifier
	Z	Reserved for a lab-defined data qualifier
Matrix_ID⊗	AIR	Air
	AQ	Water

Appendix B Standard Value List (SVL)

Field Name	Standard Value	Standard Value Description
	ASH	Ash
	BIOTA	Biological matter
	FILTER	Filter
	LIQUID	Non-aqueous liquid
	OIL	Oil
	SED	Sediment
	SLUDGE	Sludge
	SO	Soil
	SOLID	Non-soil/sediment solid
	TISSUE	Tissue
	WASTE	Waste
	WIPE	Wipe
Preparation_Type*	3005A	Acid Digestion of Waters for Total Recoverable or Dissolved Metals by FLAA or ICP
	3010A	Acid of Aqueous Samples and Extracts for Total Metals by FLAA or ICP
	3015	Microwave Assisted Acid Digestion of Aqueous Samples and Extracts
	3020A	Acid Digestion of Aqueous Samples and Extracts for Total Metals by GFAA
	3031	Acid Digestion of Oils for Metals Analysis by AA or ICP
	3050B	Acid Digestion of Sediments, Sludges, and Soils
	3051	Microwave Assisted Acid Digestion of Sediments, Sludges, Soils and Oils
	3052	Microwave Assisted Acid Digestion of Siliceous and Organically Based Matrices
	3060A	Alkaline Digestion for Hexavalent Chromium
	3510C	Separatory Funnel Liquid-Liquid Extraction
	3520C	Continuous Liquid-Liquid Extraction
	3535	Solid Phase Extraction
	3540C	Soxhlet Extraction
	3541	Automated Soxhlet Extraction
	3545	Pressurized Fluid Extraction
	3550B	Ultrasonic Extraction
	3560	Supercritical Fluid Extraction of Total Recoverable Petroleum Hydrocarbons
	5030B	Purge and Trap for Aqueous Samples
	5035	Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples
	7470A	Acid digestion of waters for Mercury analysis
	7471A	Acid digestion of soils and solids for Mercury analysis
	8015B	Shake out
	8330	Extraction and cleanup for Method 8330
	9045	Preparation of soils for pH measurement
	9056	Preparation of soils and waters for Method 9056
	Gen Prep	Generic preparation type when a preparation method ID does not exist (used mostly for general chemistry methods)
Project_Name*	Refer to SOW	Refer to SOW
Project_Number*	Refer to SOW	Refer to SOW
QC_Level*	COA	Certificate of Analysis
	COACAL	Certificate of Analysis plus calibration data
QC_Type⊗	CV	(Calibration Verification) Analytical standard run at a specified frequency to verify the calibration of the analytical system
	CCV	(Continuing Calibration Verification) Analytical standard run every 12 hours to verify the calibration of the GC/MS system
	DUP	A second aliquot of a sample that is treated the same as the original aliquot to determine the precision of the method
	EB	Field equipment rinseate
	FB	(Field blank) Analyte-free water or solvent brought to the field in sealed containers and transported to lab with sample containers
	FD	Duplicate sample taken from a field sample
	IC	(Initial Calibration) Analysis of analytical standards for a series of different specified concentrations
	ICV	(Initial Calibration Verification) Analytical standard run at a specified frequency to verify the accuracy of the initial calibration of the analytical system

Appendix B Standard Value List (SVL)

Field Name	Standard Value	Standard Value Description
	IPC	(Instrument Performance Check) Analysis of DFTPP or BFB to evaluate the performance of the GC/MS system
	LCS	(Laboratory Control Sample) A control sample of known composition
	LCSD	(Laboratory Control Sample Duplicate) A duplicate control sample of known composition
	MB	Analytical control consisting of all reagents and standards that is carried through the entire procedure (Method Blank)
	MS	(Matrix Spike) Aliquot of a matrix spiked with known quantities and subjected to the entire analytical procedure to measure recovery
	MSD	(Matrix Spike Duplicate) A second aliquot of the same matrix as the matrix spike that is spiked in order to determine the precision of the method
	PB	(Preparation Blank) Analytical control containing distilled, deionized water and reagents, and subjected to entire analytical procedure
	SB	(Storage Blank) Aliquot of analyte-free water or solvent stored with the samples as a check on contamination from the storage process
	TB	(Trip Blank) Analyte free water transported with sample bottles prior to and after sample collection
Reportable_Result⊗	Yes	Identifies a result record as reportable
	No	Identifies a result record as non-reportable
Reporting_Limit_Type*	CRDL	Contract required detection limit
	CRQL	Contract required quantitation limit
	MRL	Method reporting limit
	PQL	Practical quantitation limit
	QL	Quantitation limit
	SQL	Sample quantitation limit
	RAL	Regulatory action level
	RDL	Reportable detection limit
Result_Basis⊗	DRY	Result was calculated on a dry weight basis
	WET	Result was calculated on a wet weight basis
Result_Units These valid values are dependent on what is entered in the project library	ug/L	Micrograms per liter
	mg/L	Milligrams per liter
	ug/Kg	Micrograms per kilogram
	mg/Kg	Milligrams per kilogram
	pg/L	Picograms per liter
	ng/Kg	Nanograms per kilogram
Total_Or_Dissolved⊗	DIS	Dissolved
	TOT	Total

⊗ These standard values can not be added to or modified
* These standard values can be added to and/or modified (See section 2 of this manual)

Appendix C

Table C1 (1 of 2)
Required Fields in the Analytical Results Table for GC/MS, GC, and HPLC Methods

	GC/MS Methods			GC and HPLC Methods		
Field	Regular Sample*	MS/MSD	Method Blank, LCS/LCSD	Regular Sample*	MS/MSD	Method Blank, LCS/LCSD
Client_Sample_ID	**X**	**X**	**X**	**X**	**X**	**X**
Lab_Analysis_Ref_Method_ID	**X**	**X**	**X**	**X**	**X**	**X**
Analysis_Type	**X**	**X**	**X**	**X**	**X**	**X**
Lab_Sample_ID	**X**	**X**	**X**	**X**	**X**	**X**
Lab_ID	**X**	**X**	**X**	**X**	**X**	**X**
Client_Analyte_ID	**X**	**X**	**X**	**X**	**X**	**X**
Analyte_Name	**X**	**X**	**X**	**X**	**X**	**X**
Result	**X**	**X**	**X**	**X**	**X**	**X**
Result_Units	**X**	**X**	**X**	**X**	**X**	**X**
Lab_Qualifiers	**Q**	**Q**	**Q**	**Q**	**Q**	**Q**
Detection Limit	**X**	**X**	**X**	**X**	**X**	**X**
Detection_Limit_Type	**X**	**X**	**X**	**X**	**X**	**X**
Retention_Time	**T**		**T**			
Analyte_Type	**X**	**X**	**X**	**X**	**X**	**X**
Percent_Recovery	**S**	**R**	**R**	**S**	**R**	**R**
Relative_Percent_Difference		**D**	**D**		**D**	**D**
Reporting_Limit	**X**	**X**	**X**	**X**	**X**	**X**
Reporting_Limit_Type	**X**	**X**	**X**	**X**	**X**	**X**
Reportable_Result	**X**	**X**	**X**	**X**	**X**	**X**

Key

- X Required Field
- D Required field for spiked compounds in the LCSD and MSD only
- Q Required field if laboratory has qualifed result
- R Required field if Analyte_Type = “SPK” or “SURR”
- S Required field for surrogate compounds only
- T Required field for tentatively identified compounds by GC/MS only
- * Also includes Equipment Blanks, Field Blanks, Trip Blanks, and Field Duplicates

Table C1 (2 of 2)
Required Fields in the Analytical Results Table for ICAP, AA, and IC Methods

	ICAP and AA Methods			IC and Wet Chemistry Methods		
Field	Regular Sample*	Sample Duplicate, MS/MSD	Method Blank, LCS/LCSD	Regular Sample*	Sample Duplicate MS/MSD	Method Blank, LCS/LCSD
Client_Sample_ID	**X**	**X**	**X**	**X**	**X**	**X**
Lab_Analysis_Ref_Method_ID	**X**	**X**	**X**	**X**	**X**	**X**
Analysis_Type	**X**	**X**	**X**	**X**	**X**	**X**
Lab_Sample_ID	**X**	**X**	**X**	**X**	**X**	**X**
Lab_ID	**X**	**X**	**X**	**X**	**X**	**X**
Client_Analyte_ID	**X**	**X**	**X**	**X**	**X**	**X**
Analyte_Name	**X**	**X**	**X**	**X**	**X**	**X**
Result	**X**	**X**	**X**	**X**	**X**	**X**
Result_Units	**X**	**X**	**X**	**X**	**X**	**X**
Lab_Qualifiers	**Q**	**Q**	**Q**	**Q**	**Q**	**Q**
Detection Limit	**X**	**X**	**X**	**X**	**X**	**X**
Detection_Limit_Type	**X**	**X**	**X**	**X**	**X**	**X**
Retention_Time						
Analyte_Type	**X**	**X**	**X**	**X**	**X**	**X**
Percent_Recovery		**S**	**S**		**S**	**S**
Relative_Percent_Difference		**D**	**D**		**D**	**D**
Reporting_Limit	**X**	**X**	**X**	**X**	**X**	**X**
Reporting_Limit_Type	**X**	**X**	**X**	**X**	**X**	**X**
Reportable_Result	**X**	**X**	**X**	**X**	**X**	**X**

Key

- X Required field
- Q Required field if laboratory has qualified result
- D Required field for spiked compounds in LCSD or MSD, or target compounds in the Sample Duplicate only
- S Required field if Analyte_Type = “SPK”
- * Also includes Trip Blanks, Equipment Blanks, and Field Blanks

Table C2
Required Fields in the Laboratory Instrument Table

	GC/MS Tunes		Initial Calibration				Initial Calibration Verification				Calibration Verification, Continuing Calibration
Field	VOA	SVOA	GC/MS	GC HPLC	ICP/AA	IC*	GC/MS	GC HPLC	ICP/AA	IC*	ALL METHODS
Instrument_ID	X	X	X	X	X	X	X	X	X	X	X
QC_Type	X	X	X	X	X	X	X	X	X	X	X
Analyzed	X	X	X	X	X	X	X	X	X	X	X
Alternate_Lab_Analysis_ID	X	X	X	X	X	X	X	X	X	X	X
Lab_Analysis_ID	X	X					X	X	X	X	X
Lab_Analysis_Ref_Method_ID	X	X	X	X	X	X	X	X	X	X	X
Client_Analyte_ID	X	X	X	X	X	X	X	X	X	X	X
Analyte_Name	X	X	X	X	X	X	X	X	X	X	X
Run_Batch	X	X	X	X	X	X	X	X	X	X	X
Analysis_Batch	C	C									X
Lab_Reporting_Batch	X	X	X	X	X	X	X	X	X	X	X
Percent_Relative_Standard_Deviation			X	X							
Correlation_Coefficient			B	B	X	X					
Relative_Response_Factor			X				X				M
Percent_Difference							X	X	X	X	X
Peak_ID_01	X	X									
Percent_Ratio_01	X	X									
Peak_ID_02	X	X									
Percent_Ratio_02	X	X									
Peak_ID_03	X	X									
Percent_Ratio_03	X	X									
Peak_ID_04	X	X									
Percent_Ratio_04	X	X									
Peak_ID_05	X	X									
Percent_Ratio_05	X	X									
Peak_ID_06	X	X									
Percent_Ratio_06	X	X									
Peak_ID_07	X	X									
Percent_Ratio_07	X	X									
Peak_ID_08	X	X									
Percent_Ratio_08	X	X									
Peak_ID_09	X	X									
Percent_Ratio_09	X	X									
Peak_ID_10		X									
Percent_Ratio_10		X									
Peak_ID_11		X									
Percent_Ratio_11		X									

	GC/MS Tunes		Initial Calibration				Initial Calibration Verification				Calibration Verification, Continuing Calibration
Field	VOA	SVOA	GC/MS	GC HPLC	ICP/AA	IC*	GC/MS	GC HPLC	ICP/AA	IC*	ALL METHODS
Peak_ID_12		**X**									
Percent_Ratio_12		**X**									
Peak_ID_13		**X**									
Percent_Ratio_13		**X**									

Key

X Required field (some fields are not applicable to some General (Wet) Chemistry tests)

B Required field if reporting best fit

C Required field if BFB or DFTPP associated with a continuing calibration only

M Required field for GC/MS continuing calibration only

*IC Includes Ion Chromatography and Classical or Wet Chemistry methods. Methods such as pH, Conductivity, and others do not use traditional calibration procedures, therefore some fields marked as a required field under the "IC" column do not apply for these methods.

Table C3
Required Fields in the Sample Analysis Table

	GC, GC/MS, HPLC Methods		ICAP and AA Methods		IC and Wet Chemistry Methods	
Field	Method Blanks, LCS/LCSD	Regular Samples*, Sample Duplicate, MS/MSD	Method Blanks, LCS/LCSD	Regular Samples*, Sample Duplicate, MS/MSD	Method Blanks, LCS/LCSD	Regular Samples*, Sample Duplicate, MS/MSD
Client_Sample_ID	**X**	**X**	**X**	**X**	**X**	**X**
Collected		**X**		**X**		**X**
Matrix_ID	**X**	**X**	**X**	**X**	**X**	**X**
Lab_Sample_ID	**X**	**X**	**X**	**X**	**X**	**X**
QC_Type	**X**	**Q**	**X**	**Q**	**X**	**X**
Shipping_Batch_ID		**X**		**X**		**X**
Temperature		**X**				**X**
Lab_Analysis_Ref_Method_ID	**X**	**X**	**X**	**X**	**X**	**X**
Preparation_Type	**X**	**X**	**X**	**X**	**X**	**X**
Analysis_Type	**X**	**X**	**X**	**X**	**X**	**X**
Prepared	**A**	**A**	**X**	**X**	**N**	**N**
Analyzed	**X**	**X**	**X**	**X**	**X**	**X**
Lab_ID	**X**	**X**	**X**	**X**	**X**	**X**
QC_Level	**X**	**X**	**X**	**X**	**X**	**X**
Results_Basis		**S**		**S**		**S**
Total_Or_Dissolved			**W**	**W**		
Dilution	**X**	**X**	**X**	**X**	**X**	**X**
Handling_Type	**L**	**L**	**L**	**L**	**L**	**L**
Handling_Batch	**L**	**L**	**L**	**L**	**L**	**L**
Leachate_Date	**L**	**L**	**L**	**L**	**L**	**L**
Percent Moisture		**S**		**S**		**S**
Method_Batch	**X**	**X**	**X**	**X**	**X**	**X**
Preparation_Batch	**X**	**X**	**X**	**X**	**X**	**X**
Run_Batch	**C**	**C**	**C**	**C**	**C**	**C**
Analysis_Batch	**C**	**C**	**C**	**C**	**C**	**C**
Lab_Reporting_Batch	**X**	**X**	**X**	**X**	**X**	**X**
Lab_Receipt		**X**		**X**		**X**
Lab_Reported	**X**	**X**	**X**	**X**	**X**	**X**

Key

- X Required field
- A Required field for samples prepared by methanol extraction
- C Required field if Instrument Calibration Table (A2) is included in EDD
- L Required field if analysis performed on SPLP, TCLP, or WET extracts
- N Required field only for samples that require preparation before analysis
- Q Required field for Sample Duplicate, MS, and MSD only
- S Required field if “Matrix_ID” = “SO” or “SED”
- W Required field for aqueous samples only
- * Includes Trip Blanks, Equipment Blanks, and Field Blanks

Appendix D

Qualification Summary for GC/MS Methods

QUALITY CONTROL ITEM	EVALUATION	DATA QUALIFIER FLAG			SAMPLE(S) QUALIFIED
		Detects			
		Non Biased	Biased	Nondetects	
HOLDING TIMES (Extraction and Analysis)	1) Holding time exceeded by 2 times or less	J	J-	UJ	Sample
	2) Holding time exceeded by greater than 2 times	J	J-	R	
COOLER TEMPERATURE	1) > 6 and ≤10 degrees Centigrade	J	J-	UJ	All samples shipped in the affected cooler (Shipping Batch)
	2) >10 degrees Centigrade	J	J-	R	
	3) < 2 degrees Centigrade	None	None	None	
INSTRUMENT TUNING	1) Ion abundance criteria not met	JN	JN	R	All samples associated to an initial calibration (Run Batch), if tune is associated to an initial calibration. All samples associated to a continuing calibration (Analysis Batch), if tune is associated to a continuing calibration.
INITIAL CALIBRATION	1) Average RRF < 0.05	J	J	R	All samples associated to the initial calibration (Run Batch)
	2) %RSD > 30%	J	J	UJ	
	3) r < 0.995	J	J	UJ	
INITIAL CALIBRATION VERIFICATION (ICV)	1) Average RRF < 0.05	J	J	R	All samples associated to the ICV (Run Batch)
	2) % Difference > +25%	J	J+	None	
	3) % Difference < -25% and ≥ -50%	J	J-	UJ	
	4) % Difference < -50%	J	J-	R	
CONTINUING CALIBRATION VERIFICATION (CCV)	1) Average RRF < 0.05	J	J	R	All samples associated to the CCV (Analysis Batch)
	2) % Difference > +25%	J	J+	None	
	3) % Difference < -25% and ≥ -50%	J	J-	UJ	
	4) % Difference < -50%	J	J-	R	

Qualification Summary for GC/MS Methods

QUALITY CONTROL ITEM	EVALUATION	DATA QUALIFIER FLAG			SAMPLE(S) QUALIFIED
		Detects			
		Non Biased	Biased	Nondetects	
METHOD BLANK CONTAMINATION	1) Common lab contaminant and tentatively identified compound (TIC) results less than or equal to 10 times blank contamination	U	U	None	All samples in the same Preparation Batch as the method blank
	2) Other compound results less than or equal to 5 times blank contamination	U	U	None	
SURROGATE RECOVERY	1) % Recovery < CL but ≥ 10%	J	J-	UJ	Sample
	2) % Recovery <10%	J	J-	R	
	3) % Recovery > CL	J	J+	None	
	Note: For semivolatile analysis, two or more surrogates in a fraction must be out of criteria for qualification unless recovery < 10%.				
MATRIX SPIKE RECOVERY	1) % Recovery < CL but ≥ 10%	J	J-	UJ	Parent Sample
	2) % Recovery <10%	J	J-	R	
	3) % Recovery > CL	J	J+	None	
	4) RPD > CL	J	J	UJ	
LABORATORY CONTROL SAMPLE RECOVERY	1) % Recovery < CL but ≥ 10%	J	J-	UJ	All samples in the same Preparation Batch as the LCS
	2) % Recovery <10%	J	J-	R	
	3) % Recovery > CL	J	J+	None	
	4) RPD > CL	J	J	UJ	
REPORTING LIMITS	1) Result greater than the project-reporting limit and lab qualifier = U	N/A	N/A	None	Sample (noted on outlier report)
	2) Result less than the project-reporting limit where lab qualifier is not U.	J	J	N/A.	
FIELD DUPLICATES	1) RPD > CL	None.	None	None	Noted in outlier report

Qualification Summary for GC/MS Methods

QUALITY CONTROL ITEM	EVALUATION	DATA QUALIFIER FLAG			SAMPLE(S) QUALIFIED
		Detects			
		Non Biased	Biased	Nondetects	
FIELD BLANKS EQUIPMENT BLANKS	1) Common lab contaminants and tentatively identified compound (TIC) results less than or equal to 10 times blank contamination	U	U	None	All samples in the same sampling event
	2) Other lab contaminant results less than or equal to 5 times blank contamination	U	U	None	
TRIP BLANKS	1) Common lab contaminants and tentatively identified compound (TIC) results less than or equal to 10 times blank contamination	U	U	None	All samples in the same Shipping Batch as the trip blank
	2) Other lab contaminant results less than or equal to 5 times blank contamination	U	U	None	

Qualification Summary for GC Methods

QUALITY CONTROL ITEM	EVALUATION	DATA QUALIFIER FLAG			SAMPLE(S) QUALIFIED
		Detects			
		Non Biased	Biased	Nondetects	
HOLDING TIMES (Extraction and Analysis)	1) Holding time exceeded by 2 times or less	J	J-	UJ	Sample
	2) Holding time exceeded by greater than 2 times	J	J-	R	
COOLER TEMPERATURE	1) > 6 and ≤10 degrees Centigrade	J	J-	UJ	All samples shipped in the affected cooler. (Shipping Batch)
	2) >10 degrees Centigrade	J	J-	R	
	3) < 2 degrees Centigrade	None	None	None	
INITIAL CALIBRATION	1) %RSD > 20%	J	J	UJ	All samples associated with initial calibration (Run Batch)
	2) r < 0.995	J	J	UJ	
INITIAL CALIBRATION VERIFICATION (ICV)	1) % Difference > +25%	J	J+	None	All samples associated with initial calibration verification (Run Batch)
	2) % Difference < -25% and ≥ -50%	J	J-	UJ	
	3) % Difference < -50%	J	J-	R	
CONTINUING CALIBRATION (CV)	1) % Difference > +15%	J	J+	None	All samples associated with continuing calibration (Analysis Batch)
	2) % Difference < -15% and ≥ -50%	J	J-	UJ	
	3) % Difference < -50%	J	J-	R	
METHOD BLANK CONTAMINATION	1) Common lab contaminant results less than or equal to 10 times the blank contamination	U	U	None	All samples in the same Preparation Batch
	2) Other compound results less than or equal to 5 times the blank contamination	U	U	None	
SURROGATE RECOVERY	1) % Recovery < CL but ≥ 10%	J	J-	UJ	Sample
	2) % Recovery <10%	J	J-	R	
	3) % Recovery > CL	J	J+	None	

Qualification Summary for GC Methods

QUALITY CONTROL ITEM	EVALUATION	DATA QUALIFIER FLAG			SAMPLE(S) QUALIFIED
		Detects			
		Non Biased	Biased	Nondetects	
MATRIX SPIKE RECOVERY	1) % Recovery < CL but ≥ 10%	J	J-	UJ	Parent Sample
	2) % Recovery <10%	J	J-	R	
	3) % Recovery > CL	J	J+	None	
	4) RPD > CL	J	J	UJ	
LABORATORY CONTROL SAMPLE RECOVERY	1) % Recovery < CL but ≥ 10%	J	J-	UJ	All samples in the same Preparation Batch
	2) % Recovery <10%	J	J-	R	
	3) % Recovery > CL	J	J+	None	
	4) RPD > CL	J	J	UJ	
REPORTING LIMITS	1) Result greater than the project-reporting limit and lab qualifier = U.	N/A	N/A	None	Sample (noted in outlier report)
	2) Result less than the project-reporting limit where lab qualifier is not U.	J	J	N/A.	Sample
FIELD DUPLICATES	1) RPD > CL	None	None	None	Non-compliant results listed in the ADR outlier report
FIELD BLANKS EQUIPMENT BLANKS	1) Common lab contaminant results within 10 times blank contamination	U	U	None	All samples in the same sampling event
	2) Other lab contaminant results within 5 times blank contamination	U	U	None	
TRIP BLANKS	1) Common lab contaminant results within 10 times blank contamination	U	U	None	All samples in the same Shipping Batch
	2) Other lab contaminant results within 5 times blank contamination	U	U	None	

Qualification Summary for HPLC Methods

QUALITY CONTROL ITEM	EVALUATION	DATA QUALIFIER FLAG			SAMPLE(S) QUALIFIED
		Detects			
		Non Biased	Biased	Nondetects	
HOLDING TIMES (Extraction and Analysis)	1) Holding time exceeded by 2 times or less	J	J-	UJ	Sample
	2) Holding time exceeded by greater than 2 times	J	J-	R	
COOLER TEMPERATURE	1) > 6 and ≤10 degrees Centigrade	J	J-	UJ	All samples shipped in the affected cooler. (Shipping Batch)
	2) >10 degrees Centigrade	J	J-	R	
	3) < 2 degrees Centigrade	None	None	None	
INITIAL CALIBRATION	1) %RSD > 20%	J	J	UJ	All samples associated with initial calibration (Run Batch)
	2) r < 0.995	J	J	UJ	
INITIAL CALIBRATION VERIFICATION (ICV)	1) % Difference > +15%	J	J+	None	All samples associated with initial calibration verification (Run Batch)
	2) % Difference < -15% and ≥ -50%	J	J-	UJ	
	3) % Difference < -50%	J	J-	R	
CONTINUING CALIBRATION (CV)	1) % Difference > +15%	J	J+	None	All samples associated with continuing calibration (Analysis Batch)
	2) % Difference < -15% and ≥ -50%	J	J-	UJ	
	3) % Difference < -50%	J	J-	R	
METHOD BLANK CONTAMINATION	1) Sample results less than or equal to 5 times the blank contamination.	U	U	None	All samples in the same Preparation Batch
SURROGATE RECOVERY	1) % Recovery < CL but ≥ 10%	J	J-	UJ	Sample
	2) % Recovery <10%	J	J-	R	
	3) % Recovery > CL	J	J+	None	
MATRIX SPIKE RECOVERY	1) % Recovery < CL but ≥ 10%	J	J-	UJ	Parent Sample
	2) % Recovery <10%	J	J-	R	
	3) % Recovery > CL	J	J+	None	
	4) RPD > CL	J	J	UJ	

Qualification Summary for HPLC Methods

QUALITY CONTROL ITEM	EVALUATION	DATA QUALIFIER FLAG			SAMPLE(S) QUALIFIED
		Detects			
		Non Biased	Biased	Nondetects	
LABORATORY CONTROL SAMPLE RECOVERY	1) % Recovery < CL but ≥ 10%	J	J-	UJ	All samples in the same Preparation Batch
	2) % Recovery <10%	J	J-	R	
	3) % Recovery > CL	J	J+	None	
	4) RPD > CL	J	J	UJ	
REPORTING LIMITS	3) Reporting limits not matching the project specified limits.	None	None	None	Sample (noted in outlier report)
	4) Results reported below the project reporting detection limit.	J	J	None	Sample
FIELD DUPLICATES	1) RPD > CL	None	None	None	Non-compliant results listed in the ADR outlier report
FIELD BLANKS EQUIPMENT BLANKS	1) Common lab contaminant results within 10 times blank contamination	U	U	None	All samples in the same sampling event
	2) Other lab contaminant results within 5 times blank contamination	U	U	None	
TRIP BLANKS	1) Common lab contaminant results within 10 times blank contamination	U	U	None	All samples in the same Shipping Batch
	2) Other lab contaminant results within 5 times blank contamination	U	U	None	

Qualification Summary for Metals Methods

QUALITY CONTROL ITEM	EVALUATION	DATA QUALIFIER FLAG			SAMPLE(S) QUALIFIED
		Detects			
		Non Biased	Biased	Nondetects	
HOLDING TIMES	1) Holding time exceeded by 2 times or less	J	J-	UJ	Sample
	2) Holding time exceeded by greater than 2 times	J	J-	R	
INITIAL CALIBRATION	1) r < 0.995	J	J	UJ	All samples associated with initial calibration (Run Batch)
INITIAL CALIBRATION VERIFICATION (ICV)	1) % Recovery > 110% but ≤ 125% (Hg, % Recovery > 120% but ≤ 135%)	J	J+	None	All samples associated with initial calibration verification (Run Batch)
	2) % Recovery > 125% (Hg, % Recovery > 135%)	R	R	None	
	3) % Recovery < 90% but ≥75% (Hg, % Recovery < 80% but ≥ 65%)	J	J-	UJ	
	4) % Recovery < 75% (Hg, % Recovery < 65%)	R	R	R	
CALIBRATION VERIFICATION	1) % Recovery > 110% but ≤ 125% (Hg, % Recovery > 120% but ≤ 135%)	J	J+	None	All samples associated with continuing calibration (Analysis Batch)
	2) % Recovery > 125% (Hg, % Recovery > 135%)	R	R	None	
	3) % Recovery < 90% but ≥ 75% (Hg, % Recovery < 80% but ≥ 65%)	J	J-	UJ	
	4) % Recovery < 75% (Hg, % Recovery < 65%)	R	R	R	
METHOD BLANK CONTAMINATION	Sample results less than or equal to 5 times the blank contamination	U	U	None	All samples in the same Preparation Batch
MATRIX SPIKE RECOVERY	1) % Recovery < CL but ≥ 30%	J	J-	UJ	All samples in the same Method Batch
	2) % Recovery <30%	J	J-	R	
	3) % Recovery > CL	J	J+	None	
	4) RPD > CL	J	J	UJ	

Qualification Summary for Metals Methods

QUALITY CONTROL ITEM	EVALUATION	DATA QUALIFIER FLAG			SAMPLE(S) QUALIFIED
		Detects			
		Non Biased	Biased	Nondetects	
LABORATORY CONTROL SAMPLE RECOVERY	1) % Recovery < CL but ≥ 50%	J	J-	UJ	All samples in the same Preparation Batch
	2) % Recovery <50%	J	J-	R	
	3) % Recovery > CL	J	J+	None	
	4) RPD > CL	J	J	UJ	
REPORTING LIMITS	1) Result greater than the project-reporting limit and lab qualifier = U	N/A	N/A.	None	Sample (noted in outlier report)
	2) Result less than the project reporting limit where lab qualifier is not U.	J	J	N/A.	Sample
FIELD DUPLICATES	RPD > CL	None	None	None	Non-compliant results listed in the ADR outlier report
FIELD BLANKS EQUIPMENT BLANKS	Sample results within 5 times blank contamination	U	U	None	All samples in the same sampling event

Qualification Summary for Ion Chromatography and Wet Chemistry Methods

QUALITY CONTROL ITEM	EVALUATION	DATA QUALIFIER FLAG			SAMPLE(S) QUALIFIED
		Detects			
		Non Biased	Biased	Nondetects	
HOLDING TIMES	1) Holding time exceeded by 2 times or less	J	J-	UJ	Sample
	2) Holding time exceeded by greater than 2 times	J	J-	R	
COOLER TEMPERATURE	1) > 6 degrees Centrigrade	None	None	No Qual	Noted on outlier report for samples shipped in affected cooler
	2) < 2 degrees Centigrade				
INITIAL CALIBRATION	1) %RSD > 20%	J	J	UJ	All samples associated with initial calibration (Run Batch)
	2) r < 0.995	J	J	UJ	
INITIAL CALIBRATION VERIFICATION (ICV)	1) % Difference > +10%	J	J+	None	All samples associated with initial calibration verification (Run Batch)
	2) % Difference < -10% and $\geq$ -50%	J	J-	UJ	
	3) % Difference < -50%	J	J-	R	
CALIBRATION VERIFICATION	1) % Difference > +10%	J	J+	No qual	All samples associated with continuing calibration (Analysis Batch)
	2) % Difference < -10% and $\geq$ -50%	J	J-	UJ	
	3) % Difference < -50%	J	J-	R	
METHOD BLANK CONTAMINATION	Sample results less than or equal to 5 times the blank contamination	U	U	None	All samples in the same Preparation Batch
MATRIX SPIKE RECOVERY	1) % Recovery < CL but $\geq$ 30%	J	J-	UJ	All samples in the same Method Batch
	2) % Recovery <30%	J	J-	R	
	3) % Recovery > CL	J	J+	None	
	4) RPD > CL	J	J	UJ	
LABORATORY CONTROL SAMPLE RECOVERY	1) % Recovery < CL but $\geq$ 50%	J	J-	UJ	All samples in the same Preparation Batch
	2) % Recovery <50%	J	J-	R	
	3) % Recovery > CL	J	J+	None	
	4) RPD > CL	J	J	UJ	

Qualification Summary for Ion Chromatography and Wet Chemistry Methods

QUALITY CONTROL ITEM	EVALUATION	DATA QUALIFIER FLAG			SAMPLE(S) QUALIFIED
		Detects			
		Non Biased	Biased	Nondetects	
REPORTING LIMITS	1) Result greater than the project-reporting limit and lab qualifier = U	N/A.	N/A.	None	Sample (noted in outlier report)
	2) Result less than the project-reporting limit where lab qualifier is not U.	J	J	N/A	Sample
FIELD DUPLICATES	1) RPD > CL	None	None	None	Non-compliant results listed in the ADR outlier report
FIELD BLANKS EQUIPMENT BLANKS	Sample results within 5 times blank contamination	U	U	None	All samples in the same sampling event

Appendix E

Post Review EDD Export Specifications - Analytical Results (A1) Comma Delimited Text File				
Order	**Field Name***	**Field Description**	**Field Type**	**Field Length**
1	RecordID	Record number.	Number	Single
2	ClientSampleID	Client field sample identifier.	Text	25
3	LabAnalysisRefMethodID	Laboratory reference method (i.e. 8260B, 6010B, etc.).	Text	25
4	AnalysisType	Defines type of analysis (i.e. dilution, reanalysis, etc.).	Text	10
5	LabSampleID	Internal laboratory sample tracking number for samples and lab generated QC.	Text	25
6	LabID	Identifier of laboratory performing the analysis.	Text	7
7	ClientAnalyteID	CAS number or unique analyte identifier.	Text	12
8	AnalyteName	Chemical name for analyte.	Text	60
9	Result	Reportable result for the analyte.	Text	10
10	ResultUnits	Units of measure for the result (i.e. mg/Kg, ug/L, etc.).	Text	10
11	LabQualifiers	A string of letter or symbol qualifiers assigned by the lab based on contractor defined rules and values.	Text	7
12	DetectionLimit	Detection limit for the analyte being measured.	Text	10
13	DetectionLimitType	Specifies the type of detection limit (i.e. MDL, IDL, etc.).	Text	10
14	RetentionTime	The time expressed in decimal minutes between injection and detection for GC/MS TICs only.	Text	5
15	AnalyteType	Defines the type of result such as surrogate, spike, or target analyte.	Text	7
16	PercentRecovery	The percent recovery of a spiked QC compound such as a matrix spike, LCS spike, or surrogate.	Text	5
17	RelativePercentDifference	RPD between to QC results such as MS/MSD.	Number	Single
18	ReportingLimit	Analyte reporting limit.	Text	10
19	ReportingLimitType	Defines the type of reporting limit (PQL, CRQL, etc.).	Text	10
20	ReportableResult	(YES or NO) Indicates which result is the useable result when results from two or more analyses for the same sample and method (ie dilutions, reanalyses, etc) are reported in the EDD.	Text	3
21	**Filename**	File name of the EDD. The same as the LabReportingBatch in the Sample Analysis table (A3).	Text	12
22	**DVModifiedConcentration**	ADR modified analyte result due to blank contamination.	Text	10
23	**DVQualTemperature**	Data review qualifier for temperature outlier.	Text	5
24	**DVQualPreservation**	Data review qualifier for preservation anomaly.	Text	5
25	**DVQualHTSamplingToAnalysis**	Data review qualifier for holding time violation from sampling time to analysis time.	Text	5
26	**DVQualHTSamplingToExtraction**	Data review qualifier for holding time violation from sampling time to extraction.	Text	5
27	**DVQualHTExtractionToAnalysis**	Data review qualifier for holding time violation from extraction time to analysis time.	Text	5
28	**DVQualHoldingTime**	Overall data review qualifier for holding time violation.	Text	5
29	**DVQualMethodBlanks**	Data review qualifier for contamination in an associated method blank.	Text	5
30	**DVQualSurrogateRecovery**	Data review qualifier for surrogate recovery outlier.	Text	5
31	**DVQualMS**	Overall data review qualifier for associated MS and MSD recovery and/or RPD outlier.	Text	5
32	**DVQualMSRecovery**	Data review qualifier for MS and/or MSD	Text	5

Post Review EDD Export Specifications - Analytical Results (A1) Comma Delimited Text File				
Order	**Field Name***	**Field Description**	**Field Type**	**Field Length**
		recovery outlier.		
33	**DVQualMSRPD**	Data review qualifier for MS/MSD RPD .outlier.	Text	5
34	**DVQualLCS**	Overall data review qualifier for LCS and LCS recovery and/or RPD outlier.	Text	5
35	**DVQualLCSRecovery**	Data review qualifier for associated LCS and/or LCSD recovery outlier.	Text	5
36	**DVQualLCSRPD**	Data review qualifier for LCS/LCSD RPD outlier.	Text	5
37	**DVQualRepLimits**	Data review qualifier for result reported below the reporting limit.	Text	5
38	**DVQualReportingLimits**	Data review comment ("OutX") when reporting limit exceeds the project reporting limit.	Text	5
39	**DVQualFieldQC**	Overall data review qualifier for Field QC.	Text	5
40	**DVQualFieldBlank**	Data review qualifier for contamination in an associated Field Blank.	Text	5
41	**DVQualEquipmentBlank**	Data review qualifier for contamination in an associated Equipment Rinsate or Equipment Blank.	Text	5
42	**DVQualTripBlank**	Data review qualifier for contamination in an associated Trip Blank.	Text	5
43	**DVQualFieldDuplicate**	Data review qualifier for an associated Field Duplicate RPD outlier.	Text	5
44	**DVQualIC**	Overall data review qualifier for associated initial calibration outliers.	Text	5
45	**DVQualInitialCalibrationRRF**	Data review qualifier for an associated initial calibration relative response factor outlier.	Text	5
46	**DVQualInitialCalibrationRSD**	Data review qualifier for an associated initial calibration relative percent difference outlier.	Text	5
47	**DVQualInitialCalibrationCC**	Data review qualifier for an associated initial calibration corrrelation coefficient outlier.	Text	5
48	**DVQualICV**	Overall data review qualifier for an associated initial calibration verification.	Text	5
49	**DVQualInitialCalibration VerificationRRF**	Data review qualifier for an associated initial calibration verification relative response factor outlier.	Text	5
50	**DVQualInitialCalibration VerificationPD**	Data review qualifier for an associated initial calibration verification percent difference outlier.	Text	5
51	**DVQualCCV**	Overall data review qualifier for associated continuing calibration outliers.	Text	5
52	**DVQualContinuingCalibration VerificationRRF**	Data review qualifier for an associated continuing calibration relative response factor outlier.	Text	5
53	**DVQualContinuingCalibration VerificationPD**	Data review qualifier for an associated continuing calibration percent difference outlier.	Text	5
54	**DVQualOverall**	Overall data review qualifier for all QC and calibration qualifiers.	Text	7
55	**TagLabSampleID (see comment)**	Temporary placeholder.	Text	5
56	**TagDetQual01 (see comment)**	Temporary placeholder.	Text	5
57	**TagNonDetQual01 (see comment)**	Temporary placeholder.	Text	5
58	**TagDetQual02 (see comment)**	Temporary placeholder.	Text	5
59	**TagNonDetQual02 (see comment)**	Temporary placeholder.	Text	5
60	**surDVQualDet (see comment)**	Temporary placeholder.	Text	5
61	**surDVQualNonDet (see comment)**	Temporary placeholder	Text	5
62	**DVQualInstrumentPerformance CheckRunBatch**	Data review qualifier for GC/MS Tune outlier related to initial calibration.	Text	5
63	**DVQualInstrumentPerformance CheckAnaBatch**	Data review qualifier for GC/MS Tune outlier related to continuing calibration.	Text	5
64	**DVQualIPC**	Overall data review qualifier for GC/MS tune	Text	5

Post Review EDD Export Specifications - Analytical Results (A1) Comma Delimited Text File				
Order	**Field Name***	**Field Description**	**Field Type**	**Field Length**
		outliers.		
65	**DVQualLabDup**	Data review qualifier for RPD outlier in laboratory duplicate.	Text	5
66	**DVQualCode**	User-defined Reason Code	Text	15
67	**FieldDupRPD**	RPD calculated from Field duplicate and parent sample	Text	50
68	**DVQualMergedQualifier**	Merged lab and data review qualifiers	Text	7
69	**DVQualMergedResult**	Final result (modified concentration if applicable)	Text	10
70	**DVQualPercMoi**[1]	Data review qualifier for percent moisture	Text	5
71	**DVQualLabDupNR**[1]	Data review qualifier for laboratory duplicate not reported	Text	5
72	**DVQualLcsNR**[1]	Data review qualifier for laboratory control sample(s) not reported	Text	5
73	**DVQualDissTotDiff**[1]	Data review qualifier for dissolved and total fraction differing by more than 10%	Text	5
74	**Error**	Radiochemistry error	Text	10
75	**DVQualSampleDupCount**[1]	Data review qualifier for sample count being >20 in a duplicate batch	Text	5
76	**DVQualMsSampleCoun**[1]**t**	Data review qualifier for sample count being >20 in a matrix spike batch	Text	5
77	**DVQualLcsCount**[1]	Data review qualifier for sample count being >20 in a laboratory control sample batch	Text	5
78	**DVQualMbMissing**[1]	Data review for missing method blank	Text	5
79	**DVQualPercMoiDissTotDiff**[1]	Combined data review qualifier for percent moisture and total vs dissolved difference outliers	Text	5
80	**DVQualInternalStandard**[2]	Data review qualifier for internal standard outlier	Text	5
81	**DVQualCalibrationBlank**[2]	Data review qualifier for calibration blank contamination	Text	5
82	**DVQualRcm**[2]	Data review qualifier for resolution check mixture problem	Text	5
83	**DVQualPem**[2]	Data review qualifier for performance evaluation mixture problem	Text	5
84	**DVQualProfessionalJudgement**[2]	Data review qualifier for any reason deemed necessary by data-review chemist	Text	5
85	**DVQualTempManual**	Temporary placeholder.	Text	5

Comment: Fields that contain temporary placeholders hold information contributed during the review process that is used in generating reports. This information is kept with the output file so that if the file is ever imported back into the application, reports can be generated without having to rerun the review module.

* Field Names in bold font are added to the EDD during review and included in the exported validated EDD file

1 Data review qualifiers in these cases are added as applicable by automated data review if the option for EPA Region II assessment is selected..

2 Data review qualifiers in these cases are added manually by the user and not assessed by automated data review.

Post Review EDD Export Specifications – Sample Analysis (A3)
Comma Delimited Text File

Order	Field Name*	Field Description	Field Type	Field Length
1	RecordID	Record number.	Number	Single
2	ProjectNumber	ProjectNumber assigned by client.	Text	30
3	ProjectName	ProjectName assigned by client.	Text	90
4	ClientSampleID	Client field sample identifier.	Text	25
5	Collected	Date and time sample was collected.	Date/Time	***
6	MatrixID	Sample matrix.	Text	10
7	LabSampleID	Internal laboratory sample tracking number for samples and lab generated QC.	Text	25
8	QCType	Identifies the type of quality control sample, regular field samples are null.	Text	7
9	ShippingBatchID	Unique identifier assigned to a cooler or shipping container used to transport field samples.	Text	25
10	Temperature	Temperature in degrees C of the samples as received in the lab.	Number	Single
11	LabAnalysisRefMethodID	Laboratory reference method (i.e. 8260B, 6010B, etc.).	Text	25
12	**PreparationType**	Preparation method number (i.e. 3010A, 3510C, etc.).	Text	25
13	**AnalysisType**	Defines type of analysis (i.e. dilution, reanalysis, etc.).	Text	10
14	**Prepared**	Date and time of sample preparation/extraction.	Date/Time	***
15	**Analyzed**	Date and time of sample analysis.	Date/Time	***
16	**LabID**	Identifier of laboratory performing analysis.	Text	7
17	**QCLevel**	Level of analytical QC associated with analysis (i.e. Level III, etc.).	Text	10
18	**ResultBasis**	Indicates if a result is expressed as wet or dry.	Text	3
19	**TotalorDissolved**	Indicates if a result is expressed as total or dissolved (for metals only).	Text	3
20	**Dilution**	Sample dilution during analysis.	Number	Single
21	**HandlingType**	Type of leaching procedure, if applicable (i.e. SPLP, TCLP, etc.).	Text	10
22	**HandlingBatch**	Unique laboratory identifier for a batch of samples prepared together for a leaching procedure.	Text	12
23	**LeachateDate**	Date and time of leaching procedure.	Date/Time	***
24	**PercentMoisture**	Percent moisture of sample.	Number	Single
25	**MethodBatch**	Unique laboratory identifier for a batch of samples with similar matrix and analyzed together by one method. Links samples to matrix spikes and duplicates.	Text	12
26	**PreparationBatch**	Unique laboratory identifier for a batch of samples prepared together for analysis by one method. Links samples with method blanks and laboratory control samples.	Text	12
27	**RunBatch**	Unique laboratory identifier for a batch of analyses performed on one instrument under the control of on an initial calibration. Links the initial calibration to associated samples.	Text	12
28	**AnalysisBatch**	Unique laboratory identifier for a batch of analyses performed on one instrument under the control of a continuing calibration. Links continuing calibrations to associated samples.	Text	12
29	**LabReportingBatch**	Unique laboratory identifier for a batch of samples, QC, and calibration standards reported as a group by the lab (i.e. order number, SDG #, etc.).	Text	12
30	**LabReceipt**	Date samples received in laboratory.	Date/Time	***
31	**LabReported**	Date laboratory hardcopy submitted.	Date/Time	***
32	DataReviewCompany**	Company running the automated review software.	Text	25
33	DataReviewDate	Date and time EDD was validated.	Date/Time	***
34	ValidatedBy**	Person running the automated review.	Text	25
35	ValidationDate**	Date and time when automated data review qualifiers were reviewed	Date/Time	***

Post Review EDD Export Specifications – Sample Analysis (A3) Comma Delimited Text File				
Order	**Field Name***	**Field Description**	**Field Type**	**Field Length**
36	ApprovedBy**	Person performing secondary review of data review flags.	Text	25
37	ApprovalDate**	Date and time of secondary review by "ApprovedBy".	Date/Time	***
38	FileName	File name of EDD (same as LabReportingBatch).	Text	12
39	TagLabSampleID (see comment)	Temporary place holder.	Text	5
40	TagDetQual (see comment)	Temporary place holder.	Text	5
41	TagNonDetQual (see comment)	Temporary place holder.	Text	5
42	TempFlag (see comment)	Temporary place holder.	Text	1
43	LabMethodCategory	Method category used on import into EDMS	Text	10

Comment: Fields that contain temporary placeholders hold values created during the validation process. These values are used in generating reports. This information is kept with the output file so that if the file is ever imported back into the application, reports can be generated without having to rerun the validation module.

* Field Names in bold font are added to the EDD during automated data review and included in the exported data-reviewed EDD file

**Automated data review does not update these fields with any information but these fields are still part of the exported data-reviewed file. These fields may be populated manually by the user from various forms in the application prior to exporting.

*** Date/Time format: MM/DD/YYYY hh:mm

Appendix F

Technical Notes

Identifying Variations of a Method

The "LabAnalysisRefMethodID" field may be used to identify variations of a method in both the EDD and project library. To do this, place a "/" between the method and the identifier for the method (eg. 8260B/NoDCP, 8260B/ListA, 8260B/ShortList, etc.). The method designation must be consistent between the Analytical Results (A1) Table, the Laboratory Instrument (A2) Table, and the Sample Analysis (A3) Table as well as in the Project library. The maximum width for the "LabAnalysisRefMethodID" field, including the "/" separator, is 25 characters. Note: Prior to building a project library, the Analytical Methods standard value list must be appended with the Method/Descriptor combinations used in the EDD.

Identifying "Total" and "Dissolved" Results (Aqueous Metals Analyses Only)

The "Total_Or_Dissolved" field in the A3 table is used to identify at the sample and method level whether a set of results is being reported as "total" metals or "dissolved" metals. Similarly, the "Analysis_Type" field (in both the A1 and A3 tables) will be used to designate at the parameter level whether an individual result is a "total" result or "dissolved" result. To designate a result as a "total" or "dissolved" result, place a "/TOT" or "/DIS" immediately after the analysis type designation (eg. RES/TOT, RES/DIS, DL/TOT, DL/DIS, etc). The designation must be consistent between the A1 and A3 tables. The maximum width for the "Analysis_Type" field, including the "/" separator, is 10 characters. Note: Prior to performing an EDD error check, the Analysis Type valid value list must be appended with Analysis Type designations (See Table 1).

Reporting Results Derived from a Leachate Procedure

When a leachate procedure (eg TCLP, WET, SPLP, etc) is performed, the "Analysis_Type" field (in both the A1 and A3 tables) will be used to designate the results as being associated with a leachate procedure. To designate a result as a leachate result, place a "/" along with the initials of the leaching procedure immediately after the analysis type designation (eg. RES/TCLP, RES/WET, DL/SPLP, etc). The designation must be consistent between the A1 and A3 tables as well as in the project library. The maximum width for the "Analysis_Type" field, including the "/" separator, is 10 characters. Note: Prior to performing an EDD error check, the Analysis Type valid value list must be appended with Analysis Type designations (See Table 1).

Table 1: Standard Values to Add to "Analysis Type" SVL Library

SVLs for Total and Dissolved Metals Analyses	SVLs for TCLP Analyses	SVLs for WET Analyses	SVLs for SPLP Analyses
RES/TOT	RES/TCLP	RES/WET	RES/SPLP
RES/DIS	DL/TCLP	DL/WET	DL/SPLP
RE/TOT	DL2/TCLP	DL2/WET	DL2/SPLP
RE/DIS	RE/TCLP	RE/WET	RE/SPLP
	RE2/TCLP	RE2/WET	RE2/SPLP

Preparing Project Libraries

When preparing a project library, a copy-up and copy-down feature is available that allows entries within a field to be copied from one record to the next. (To use the copy feature, hold the shift key while using either a up or down arrow to copy from a record containing a value to an adjacent record to be populated).

Naming Convention for Lab Duplicate, MS/MSD Samples

Lab duplicate, matrix spike and matrix spike duplicate samples are now associated with their parent sample via the Client Sample ID (versus the Lab Sample ID in earlier versions of the software). In order for the correct association to be made, it is crucial the Client Sample ID adhere to the EDD specifications. Append suffixes DUP, MS and MSD, without an intervening hyphen or space, to the Client Sample ID of the parent sample in order to create the Client Sample ID for the laboratory duplicate, matrix spike, and matrix spike duplicate, respectively. For example, if the parent Client Sample ID is 98100001, the laboratory duplicate would appear with a Client Sample ID of 9810001DUP, the matrix spike sample would appear with a Client Sample ID of 9810001MS, and the matrix spike duplicate would appear with a Client Sample ID of 9810001MSD. Parent sample records must exist for each DUP, MS and MSD record. If a DUP or MS/MSD is shared between two EDDs, records for the DUP or MS/MSD and its parent sample must exist in the A1 and A3 tables for both EDDs. Note: If an end data user specifies that all samples in the method batch will be associated with these QC samples, the Client Sample ID naming convention is not crucial since all samples will be linked to the DUP, MS or MSD via the Method Batch number.

Methods with Parameter-Specific Holding Times

Although infrequent, there are methods where the holding time criteria is not consistent between analytes (ie Method 300). The "LabAnalysisRefMethodID" field may be used in both the EDD and project library to identify those methods with parameter-specific holding times. To do this, place a "/" between the method and the specific parameter(s) (eg. 300.0/NO3, 300.0/AllExceptNO3, etc.). The method designation must be consistent between all tables (A1, A2 and A3) as well as in the Project library. The maximum width for the "LabAnalysisRefMethodID" field, including the"/" separator, is 25 characters. Note: Prior to building a project library, the Analytical Methods standard value list must be appended with the Method/Descriptor combinations used in the EDD.

Applying Preparation Date for Solids (TS, TSS, TDS)

When a solids analysis (total solids, total suspended solids or total dissolved solids) is performed, the preparation date field should be populated with the date the sample aliquot was measured. The preparation method should be indicated as METHOD.

How to Handle Multiple Analysis Dates for a Single Method (ie 6010B Analytes)

If the results for a sample/method are composited from more than one analysis date and/or time and the Analysis Type is the same (ie RES), the records in both the A1 and A3 files must be distinguished using unique Analysis Type entries (RES1, RES2, RES3, etc). For example, if some parameters from a 6010B analysis were performed on one day and others were performed on a different day, those parameters associated with the first analysis date should be assigned an Analysis Type RES1 and those from the second analysis date should be assigned an Analysis Type of RES2. The Analysis Type valid value list must be appended with the new valid values to avoid errors appearing on the EDD Non-conformance Report.

Reanalysis of Method Blanks and Laboratory Control Samples

If a method blank and/or laboratory control sample are re-analyzed, the re-analysis results must have a Preparation Batch identifier different from that assigned to the initial results, regardless of how the Analysis Type field has been populated.

Reanalysis of Matrix Spike, MS Duplicate and Laboratory Duplicate Samples

If a matrix spike (MS), matrix spike duplicate (MSD) and/or laboratory duplicate (DUP) are re-analyzed, the re-analysis results must have a Method Batch identifier different from that assigned to the initial results, regardless of how the Analysis Type field has been populated.

Assignment of Reason Codes for Field Duplicate Outliers

Although validation qualifiers are not assigned when the RPD of a set of field duplicates exceeds the project library limits, a reason code will be assigned if the user has selected "Assign Reason Codes" at the time of validation and the field duplicate field has been populated in the Reason Code Library. A reason code alerts the user that the field duplicate RPD criteria has been exceeded so they may determine whether a qualifier is warranted. Users who do not wish to assign a reason code should not enter a reason code format in the Field Duplicate field of the Reason Code Library.